AD02720

Ex Libris

MMR Long Range Water Supply Project Laboratory Analytical Results for Site 1

I) Deep Observation Well (MW-3) aqueous sample results. [7/23/96]

J) MW-3 Seive Analysis. [7/15/96]

K) Test Well sampling results, first day. [9/6/96]

L) Test Well sampling results, middle day. [9/9/96]

M) Test Well sampling results, last day. [9/11/96]

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Commonwealth Analytical

Site 1
Deep Observation Well
(MW-3) Aqueous
Sample results.

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: WATER QUALITY ANALYSIS
Project # 400096_4_50

Workorder # 9607361

Authorized Signature

Stephen L. Knollmeyer 8/12/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

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A division of Tighe & Bond, Inc.

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

PWS INFORMATION:

1. PWS ID# INA
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	Site 1 - MW3	7/23/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical — Lab Cert.#: MA-014

Subcontracted? (Y,N) Y — Lab Sample ID#: 9607361

Sub. Lab Name: Core Laboratories — Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes: Gamma analysis was performed ND at 4.4 pCi/L, analyzed on 07/30/96

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	214	15 pCi/L	30.1	900.0	07/31/96
Radium - 226*	7.8	5 pCi/L	0.5	903.1	07/30/96
Radium - 228*	2.3		0.7	904.0	07/30/96
Radon **	646	----	197		07/26/96
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	231	4 mrems/yr	18.6	900.0	07/31/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	150	906.0	07/29/96
Strontium - 90	ND	8 pCi/L	2.7	905.0	08/03/96

Gross Alph
Radium

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).
** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date 8/30/96

Attention:
Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

ccepted:	Disapproved:	Data Entered into WQTS:
ments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY N

NITRATE REPORT
(FORM #1B.1)

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	Site 1 - MW3	7/23/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Is the Sample Chlorinated? No
11. Was the Sample Collected after Treatment? No
12. Manifolded: [ ] If applicable, list the connected sources:

13. Routine [] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes: This sample was analyzed on 07/30/96 for NO2NO3 combined with a result of 0.32 mg/L

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	0.26			
MCL (mg/L)	10.0			
Detection Limit (mg/L)	0.02			
Analytical Method	SM 4500-NO3-F			
Date Analyzed*	07/30/96			
Lab Sample ID#	9607361-01			

* Holding time for chlorinated samples is 48 hours. Holding time for non-chlorinated samples is 14 days.

Laboratory Director Signature and Date Stephen Kneeling 8/30/96

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FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
nts:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

	4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A:	INA	Site 1 - MW3	7/23/96	collins
B:				
C:				
D:				

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: Exploritory Well

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: Cert#: Lab Symbol:
Notes:

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L A	B	C	D	Lab Symbl
Lab Sample ID	---------	--------	-------	9607361				----
Turbidity (NTU)	180.1	0.05	07/24/96	200				
TDS	160.1	5	07/29/96	43				
Color (color units)	SM2120B	5	07/24/96	200				----
Odor (TON)	140.1	1	07/24/96	1				----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	07/24/96	20				
Hardness (CaCO3)	130.2	2	08/01/96	22				----
Calcium (Ca)	200.7	0.2	07/30/96	2.7				
Magnesium (Mg)	200.7	1	07/30/96	4.9				----
Aluminum (Al)	200.7	0.05	08/01/96	16				----
Potassium (K)	258.1	0.05	08/02/96	7.0				----
Iron (Fe)	200.7	0.05	07/31/96	29				----
Manganese (Mn)	200.7	0.01	07/30/96	0.77				----
Sulfate (SO4)	SM 4500-SO4-E	2	07/30/96	6.3				

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	08/01/96	7.5				----
Silver (Ag)	272.1	0.01	08/02/96	<0.01				
Copper (Cu)	220.1	0.01	07/30/96	0.025				
Zinc (Zn)	200.7	0.05	-	NR				----

Laboratory Director Signature and Date [signature] 8/30/96

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FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

PWS ID# INA

2. City/Town: Bourne

PWS Name: MMR

4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID: INA

6. Sample Location: Site 1 - MW3

7. Date Collected: 7/23/96

8. Collected by: Collins

Is the Source Treated? Yes

10. Was the Sample Collected after Treatment? Yes

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical

Lab Cert.#: MA-014

Subcontracted? (Y,N) N

Lab Sample ID#: 9607361

(use symbols to relate each analyte to a specific lab)

Sub. Name:

Cert.#:

Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9607361	0.0073	0.05	0.005	SM 3113B	07/29/96	
Barium	9607361	0.08	2.0	0.02	200.7	08/01/96	
Cadmium	9607361	<0.002	0.005	0.002	SM 3113B	07/30/96	
Chromium	9607361	0.022	0.1	0.005	200.7	07/30/96	
Fluoride*	9607361	0.30	4.0	0.1	SM 4500-F-B	07/25/96	
Mercury	9607361	<0.0002	0.002	0.0002	SM 3112B	08/01/96	
Selenium	9607361	<0.002	0.05	0.002	SM 3113B	08/05/96	
Sodium	9607361	3.6	none	1.0	200.7	08/02/96	
Antimony	9607361	<0.003	0.006	0.003	SM 3113B	07/30/96	
Beryllium	9607361	0.00087	0.004	0.0003	SM 3113B	07/29/96	
Nickel	9607361	0.023	0.1	0.001	SM 3113B	07/30/96	
Thallium	9607361	<0.001	0.002	0.001	200.9	08/02/96	
Cyanide	9607361	<0.01	0.2	0.01	SM 4500-CN-C	07/30/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9607361	6.3	---	2	SM 4500-S04-E	07/30/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date: Stephen Kaufman 8/3/96

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Approved:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:

PWS ID#: INA
2. City/Town: Bourne
PWS Name: MMR
4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	Site 1 -MW3	07/23/96	Collins

9. Is the Source Treated? Yes
10. Was the Sample Collected after Treatment? Yes
10. Manifolded (Multiple) [ ] If applicable, list the connected sources:
11. Routine [ ] Special [x (explain below)
Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical
Lab Cert.#: MA-014
Subcontracted? (Y,N)
Lab Sample ID#: 9607361-01
(Use symbols to relate each analyte to a specific lab):
Sub. Name: # Lab Symbol:
Sub. Name: # Lab Symbol:
Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

Compound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Carbofuran	NR	40	0.7	531.1	N/A		
Oxamyl (Vydate)	NR	200	0.9	531.1	N/A		
2,4-D	NR	70	1	515.1			
2 -TP (Silvex)	NR	50	0.7	515.1			
D. on	NR	200	1	515.1			
Dinoseb	NR	7	0.5	515.1			
Picloram	NR	500	1	515.1			
Alachlor	NR	2	0.7	507			
Atrazine	NR	3	0.3	507			
Chlordane	NR	2	0.18	508			
Endrin	NR	2	0.13	508			
Heptachlor	NR	0.4	0.04	508			
Heptachlor epoxide	NR	0.2	0.05	508			
Lindane	NR	0.2	0.03	508			
Methoxychlor	NR	40	0.1	508			
PCB Aroclor 1016	NR	---	0.48	508			
PCB Aroclor 1221	NR	---	0.2	508			
PCB Aroclor 1232	NR	---	0.08	508			
PCB Aroclor 1242	NR	---	0.15	508			
PCB Aroclor 1248	NR	---	0.19	508			
P oclor 1254	NR	---	0.1	508			

PWS ID No: _____ (FORM #9.2) Town: Bourne

Compound: Regulated (continued)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
PCB Aroclor 1260	NR	---	0.17	508			
decachlorobiphenyl)	NR	0.5		508A			
Pentachlorophenol	NR	1	0.3	515.1			
Toxaphene	NR	3	1	508			
Benzo(a)pyrene	NR	0.2	0.1	515.1			
Di(2-ethylhexyl)adipate	NR	400	0.6	525.5			
Di(2-ethylhexyl)phthalates	NR	6	3	525.2			
Hexachlorobenzene	NR	1	0.09	508			
Hexachlorocyclopentadiene	NR	50	0.05	508/525			
Simazine	NR	4	2	507			
Dibromochloropropane (DBCP)*	ND	0.2	0.01	504.1	07/24/96	07/24/96	
Ethylene dibromide (EDB)*	ND	0.02	0.01	504.1	07/24/96	07/24/96	
Diquat		20	MONITORING FOR THESE COMPOUNDS HAS BEEN WAIVED ON A STATEWIDE BASIS FOR BOTH GROUND AND SURFACE WATER SOURCES.**				
Endothall		100					
Glyphosate		700					
2,3,7,8-TCDD (Dioxin)		$3X10^{-5}$					

Compound: Unregulated	Result µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aldicarb	NR	0.3	531.1	N/A		
Aldicarb sulfoxide	NR	0.5	531.1	N/A		
Aldicarb sulfone	NR	0.5	531.1	N/A		
Carbaryl	NR	0.7	531.1	N/A		
3-Hydroxycarbofuran	NR	0.4	531.1	N/A		
Methomyl	NR	1.1	531.1	N/A		
Dicamba	NR	0.08	515.1			
Aldrin	NR	0.08	508			
Butachlor	NR	0.3	507			
Dieldrin	NR	0.01	508			
Metolachlor	NR	0.7	507			
Metribuzin	NR	0.1	507			
Propachlor	NR	0.14	508			

The QA/QC required matrix spike sample information is on file at our office.

*Monitoring for these two compounds has been waived on a statewide basis for SURFACE WATER SOURCES only. Unless specifically requested by DEP, SURFACE WATER SOURCES do not have to monitor for these compounds.

**If you have been specifically instructed by DEP to monitor for these compounds, please report them on a separate sheet.

Laboratory Director Signature and Date Stephen Kavalieros 8/30/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention WQA-SAMP; within 30 days of receipt of results and within 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AS COMPLETED

Approved:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC
5. DEP Source/Location ID: INA 6. Sample Location: Site 1 -MW3 7. Date Collected: 07/23/96 8. Collected by: Collins
9. Is the Source Treated? Yes 10. Was the Sample Collected After Treatment? Yes
11. Manifolded [ ] If applicable, list the connected sources:
12. Routine [ ] Special [x] (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9607361-01
Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	07/30/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	07/30/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	07/30/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	07/30/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	07/30/96
Trichloroethylene	ND	5.0	0.5	524.2	07/30/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	07/30/96
Vinyl Chloride	ND	2.0	0.5	524.2	07/30/96
Monochlorobenzene	ND	100.0	0.5	524.2	07/30/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	07/30/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	07/30/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	07/30/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	07/30/96
Ethylbenzene	ND	700.0	0.5	524.2	07/30/96
Styrene	ND	100.0	0.5	524.2	07/30/96
Tetrachloroethylene	ND	5.0	0.5	524.2	07/30/96
Toluene	ND	1000.0	0.5	524.2	07/30/96
Xylenes (total)	ND	10000.0	0.5	524.2	07/30/96
Dichloromethane	ND	5.0	0.5	524.2	07/30/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	07/30/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	07/30/96

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	0.6	0.5	524.2	07/30/96
Bromodichloromethane	ND	0.5	524.2	07/30/96
Chlorodibromomethane	ND	0.5	524.2	07/30/96
Bromoform	ND	0.5	524.2	07/30/96
m-Dichlorobenzene	ND	0.5	524.2	07/30/96
Dibromomethane	ND	0.5	524.2	07/30/96
1,1-Dichloropropene	ND	0.5	524.2	07/30/96
1,1-Dichloroethane	ND	0.5	524.2	07/30/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	07/30/96
1,3-Dichloropropane	ND	0.5	524.2	07/30/96
Chloromethane	ND	0.5	524.2	07/30/96
Bromomethane	ND	0.5	524.2	07/30/96
1,2,3-Trichloropropane	ND	0.5	524.2	07/30/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	07/30/96
Chloroethane	ND	0.5	524.2	07/30/96
2,2-Dichloropropane	ND	0.5	524.2	07/30/96
o-Chlorotoluene	ND	0.5	524.2	07/30/96
p-Chlorotoluene	ND	0.5	524.2	07/30/96
Bromobenzene	ND	0.5	524.2	07/30/96
1,3-Dichloropropene	ND	0.5	524.2	07/30/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	07/30/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	07/30/96
n-Propylbenzene	ND	0.5	524.2	07/30/96
n-Butylbenzene	ND	0.5	524.2	07/30/96
Napthalene	ND	0.5	524.2	07/30/96
Hexachlorobutadiene	ND	0.5	524.2	07/30/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	07/30/96
p-Isopropyltoluene	ND	0.5	524.2	07/30/96
Isopropylbenzene	ND	0.5	524.2	07/30/96
Tert-butylbenzene	ND	0.5	524.2	07/30/96

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	07/30/96
Fluorotrichloromethane	ND	0.5	524.2	07/30/96
Dichlorodifluoromethane	ND	0.5	524.2	07/30/96
Bromochloromethane	ND	0.5	524.2	07/30/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	82	80-120
1,2-dichlorobenzene-d_4	92	80-120

The QA/QC required matrix spike sample information is on file at our office.

Laboratory Director Signature and Date: [signature] 8/30/96

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FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
nts:		

Commonwealth Analytical

Workorder #9607361

Laboratory Results Prepared For :

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER
Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : WATER QUALITY ANALYSIS
Taken : 07/23/96
Transported : FED X
Type : GROUNDWATER
PO # : PS-027131

8/12/96 CFR
Certified by

Workorder Comments

...ochemistry analyses were performed by Core Laboratories, Casper WY. EPA certified. Nitroaromatic analysis was performed by Lockheed Analytical Services, Las Vegas, NV.
Strontium analysis to follow upon test completion.

Inorganic Results for 01-MW3-190-F

Matrix:GROUNDWATER — Collected on 07/23/96 12:00:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	20	mg/L	07/24/96	TM
01D	AMMONIA NITROGEN as N	<0.2	N, mg/L	07/30/96	SLS
01B	CHLORIDE	7.5	mg/L	08/01/96	SLS
01B	COLOR-APPARENT	200	apparent color	07/24/96	DF
01E	CYANIDE, TOTAL	<0.01	mg/L	07/30/96	TM
01C	FLUORIDE	0.30	mg/L	07/25/96	DF
01D	HARDNESS	22	mg/L	08/01/96	SLS
01B	NITRATE as NITROGEN	0.26	N, mg/L	07/30/96	SLS
01D	NITRITE-NITRATE, as N	0.32	N, mg/L	07/30/96	SLS
01B	ODOR	1	TON	07/24/96	DF
01B	SPECIFIC CONDUCTANCE	49	umhos/cm @25	07/31/96	DF
01B	SULFATE	6.3	mg/L	07/30/96	SLS
01B	TOTAL DISSOLVED SOLIDS	43	mg/L	07/29/96	DF
01B	TURBIDITY	200	NTU	07/24/96	DF

Biology Results for 01-MW3-190-F

Matrix:GROUNDWATER — Collected on 07/23/96 12:00:00

	Analyte	Result	Units	Test Date	Analyst
01A	TOTAL COLIFORM BACTERIA	<5	colonies/100ml	07/24/96	RNE

Metal Results for 01-MW3-190-F

Matrix:GROUNDWATER — Collected on 07/23/96 12:00:00

	Analyte	Result	Units	Test Date	Analyst	
01F	ALUMINUM by ICP	16	mg/L	08/01/96	JLZ	
01F	ANTIMONY by ICP	<0.003	mg/L	07/30/96	JLZ	
01F	ARSENIC by furnace AA	0.0073	mg/L	07/29/96	JLZ	lead
01F	BARIUM by ICP	0.08	mg/L	08/01/96	JLZ	MCL =
01F	BERYLLIUM by furnace AA	0.00087	mg/L	07/29/96	JLZ	.015 m
01F	CADMIUM by ICP	<0.002	mg/L	07/30/96	JLZ	/15ug/L
01F	CALCIUM by ICP	2.7	mg/L	07/30/96	JLZ	
01F	CHROMIUM by ICP	0.022	mg/L	07/30/96	JLZ	
01F	COPPER by ICP	0.025	mg/L	07/30/96	JLZ	
01F	IRON by ICP	29	mg/L	07/30/96	JLZ	
01F	LEAD by furnace AA	0.021	mg/L	07/31/96	JLZ	
01F	MAGNESIUM by ICP	4.9	mg/L	07/30/96	JLZ	
01F	MANGANESE by ICP	0.77	mg/L	07/30/96	JLZ	
01F	MERCURY by cold vapor AA	<0.0002	mg/L	08/01/96	TM	
01F	NICKEL by ICP	0.023	mg/L	07/30/96	JLZ	
01F	POTASSIUM by ICP	7.0	mg/L	08/02/96	JLZ	
01F	SELENIUM by furnace AA	<0.002	mg/L	08/05/96	BG	
01F	SILVER by flame AA	<0.01	mg/L	08/02/96	TM	
01F	SODIUM by ICP	3.6	mg/L	08/02/96	JLZ	
01F	THALLIUM by furnace AA	<0.001	mg/L	08/02/96	JLZ	

Subcontracted Results for 01-MW3-190-F

Matrix:GROUNDWATER — Collected on 07/23/96 12:00:00

	Analyte	Result	Units	Test Date	Analyst
01I	SUBCONTRACTED TEST	*	*		

Subcontracted Results for 01-MW3-190-F

Matrix:GROUNDWATER — Collected on 07/23/96 12:00:00

	Analyte	Result	Units	Test Date	Analyst
01J	SUBCONTRACTED TEST	*	*		
01K	SUBCONTRACTED TEST	*	*		
01L	SUBCONTRACTED TEST	*	*		

Biology Results for 01-MW3-190-F

Commonwealth Analytical

Workorder #9607361

Results for 01-MW3-190-F

Method 504.1 - EDB & DBCP in Water

Matrix:GROUNDWATER

Collected on 07/23/96 12:00:00
Extracted on 07/24/96
Analyzed on 07/24/96 by MAG

01E\504	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	106-93-4	1,2-Dibromoethane	ND	0.01
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.01
		1,4-Dichlorobutane	Surrogate % Recovery = 118	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9607361

Results for 01-MW3-190-F

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 07/23/96 12:00:00
Analyzed on 07/30/96 by MAB

01G\524 CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
71-43-2	Benzene	ND	0.5
108-86-1	Bromobenzene	ND	0.5
74-97-5	Bromochloromethane	ND	0.5
75-27-4	Bromodichloromethane	ND	0.5
75-25-2	Bromoform	ND	0.5
74-83-9	Bromomethane	ND	0.5
104-51-8	n-Butylbenzene	ND	0.5
135-98-8	sec-Butylbenzene	ND	0.5
98-06-6	tert-Butylbenzene	ND	0.5
56-23-5	Carbon tetrachloride	ND	0.5
108-90-7	Chlorobenzene	ND	0.5
75-00-3	Chloroethane	ND	0.5
67-66-3	Chloroform	0.6	0.5
74-87-3	Chloromethane	ND	0.5
95-49-8	2-Chlorotoluene	ND	0.5
106-43-4	4-Chlorotoluene	ND	0.5
124-48-1	Dibromochloromethane	ND	0.5
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.5
106-93-4	1,2-Dibromoethane	ND	0.5
74-95-3	Dibromomethane	ND	0.5
95-50-1	1,2-Dichlorobenzene	ND	0.5
541-73-1	1,3-Dichlorobenzene	ND	0.5
106-46-7	1,4-Dichlorobenzene	ND	0.5
75-71-8	Dichlorodifluoromethane	ND	0.5
75-34-3	1,1-Dichloroethane	ND	0.5
107-06-2	1,2-Dichloroethane	ND	0.5
75-35-4	1,1-Dichloroethene	ND	0.5
156-59-4	cis-1,2-Dichloroethene	ND	0.5
156-60-5	trans-1,2-Dichloroethene	ND	0.5
78-87-5	1,2-Dichloropropane	ND	0.5
142-28-9	1,3-Dichloropropane	ND	0.5
590-20-7	2,2-Dichloropropane	ND	0.5
563-58-6	1,1-Dichloropropene	ND	0.5
10061-01-5	cis-1,3-Dichloropropene	ND	0.5
10061-02-6	trans-1,3-Dichloropropene	ND	0.5
100-41-4	Ethylbenzene	ND	0.5
87-68-3	Hexachlorobutadiene	ND	0.5
98-82-8	Isopropylbenzene	ND	0.5
99-87-6	4-Isopropyltoluene	ND	0.5
75-09-2	Methylene chloride	ND	0.5
91-20-3	Naphthalene	ND	0.5
103-65-1	n-Propylbenzene	ND	0.5
100-42-5	Styrene	ND	0.5
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.5
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.5
127-18-4	Tetrachloroethene	ND	0.5
108-88-3	Toluene	ND	0.5

continued

Commonwealth Analytical

Workorder #9607361

Results for 01-MW3-190-F

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 07/23/96 12:00:00
Analyzed on 07/30/96 by MAB

01G\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	87-61-6	1,2,3-Trichlorobenzene	ND	0.5
	120-82-1	1,2,4-Trichlorobenzene	ND	0.5
	71-55-6	1,1,1-Trichloroethane	ND	0.5
	79-00-5	1,1,2-Trichloroethane	ND	0.5
	79-01-6	Trichloroethene	ND	0.5
	75-69-4	Trichlorofluoromethane	ND	0.5
	96-18-4	1,2,3-Trichloropropane	ND	0.5
	95-63-6	1,2,4-Trimethylbenzene	ND	0.5
	108-67-8	1,3,5-Trimethylbenzene	ND	0.5
	75-01-4	Vinyl chloride	ND	0.5
	95-47-6	o-Xylene	ND	0.5
	108-38-3	m-Xylene	ND	0.5
	106-42-3	p-Xylene	ND	0.5
		4-Bromofluorobenzene	Surrogate % Recovery = 82	
		1,2-Dichlorobenzene-d4	Surrogate % Recovery = 92	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9607361

Results for TRIP BLANK

Method 504.1 - EDB & DBCP in Water

Matrix:LAB_WATER

Collected on 07/10/96 14:42:00
Extracted on 07/24/96
Analyzed on 07/24/96 by MAG

02B\504	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	106-93-4	1,2-Dibromoethane	ND	0.01
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.01
		1,4-Dichlorobutane	Surrogate % Recovery = 107	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9607361

Results for TRIP BLANK

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:LAB_WATER

Collected on 07/10/96 14:40:00
Analyzed on 07/30/96 by MAB

02A\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	71-43-2	Benzene	ND	0.5
	108-86-1	Bromobenzene	ND	0.5
	74-97-5	Bromochloromethane	ND	0.5
	75-27-4	Bromodichloromethane	ND	0.5
	75-25-2	Bromoform	ND	0.5
	74-83-9	Bromomethane	ND	0.5
	104-51-8	n-Butylbenzene	ND	0.5
	135-98-8	sec-Butylbenzene	ND	0.5
	98-06-6	tert-Butylbenzene	ND	0.5
	56-23-5	Carbon tetrachloride	ND	0.5
	108-90-7	Chlorobenzene	ND	0.5
	75-00-3	Chloroethane	ND	0.5
	67-66-3	Chloroform	ND	0.5
	74-87-3	Chloromethane	ND	0.5
	95-49-8	2-Chlorotoluene	ND	0.5
	106-43-4	4-Chlorotoluene	ND	0.5
	124-48-1	Dibromochloromethane	ND	0.5
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.5
	106-93-4	1,2-Dibromoethane	ND	0.5
	74-95-3	Dibromomethane	ND	0.5
	95-50-1	1,2-Dichlorobenzene	ND	0.5
	541-73-1	1,3-Dichlorobenzene	ND	0.5
	106-46-7	1,4-Dichlorobenzene	ND	0.5
	75-71-8	Dichlorodifluoromethane	ND	0.5
	75-34-3	1,1-Dichloroethane	ND	0.5
	107-06-2	1,2-Dichloroethane	ND	0.5
	75-35-4	1,1-Dichloroethene	ND	0.5
	156-59-4	cis-1,2-Dichloroethene	ND	0.5
	156-60-5	trans-1,2-Dichloroethene	ND	0.5
	78-87-5	1,2-Dichloropropane	ND	0.5
	142-28-9	1,3-Dichloropropane	ND	0.5
	590-20-7	2,2-Dichloropropane	ND	0.5
	563-58-6	1,1-Dichloropropene	ND	0.5
	10061-01-5	cis-1,3-Dichloropropene	ND	0.5
	10061-02-6	trans-1,3-Dichloropropene	ND	0.5
	100-41-4	Ethylbenzene	ND	0.5
	87-68-3	Hexachlorobutadiene	ND	0.5
	98-82-8	Isopropylbenzene	ND	0.5
	99-87-6	4-Isopropyltoluene	ND	0.5
	75-09-2	Methylene chloride	ND	0.5
	91-20-3	Naphthalene	ND	0.5
	103-65-1	n-Propylbenzene	ND	0.5
	100-42-5	Styrene	ND	0.5
	630-20-6	1,1,1,2-Tetrachloroethane	ND	0.5
	79-34-5	1,1,2,2-Tetrachloroethane	ND	0.5
	127-18-4	Tetrachloroethene	ND	0.5
	108-88-3	Toluene	ND	0.5

continued

Commonwealth Analytical

Workorder #9607361

Results for TRIP BLANK

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:LAB_WATER

Collected on 07/10/96 14:40:00
Analyzed on 07/30/96 by MAB

02A\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	87-61-6	1,2,3-Trichlorobenzene	ND	0.5
	120-82-1	1,2,4-Trichlorobenzene	ND	0.5
	71-55-6	1,1,1-Trichloroethane	ND	0.5
	79-00-5	1,1,2-Trichloroethane	ND	0.5
	79-01-6	Trichloroethene	ND	0.5
	75-69-4	Trichlorofluoromethane	ND	0.5
	96-18-4	1,2,3-Trichloropropane	ND	0.5
	95-63-6	1,2,4-Trimethylbenzene	ND	0.5
	108-67-8	1,3,5-Trimethylbenzene	ND	0.5
	75-01-4	Vinyl chloride	ND	0.5
	95-47-6	o-Xylene	ND	0.5
	108-38-3	m-Xylene	ND	0.5
	106-42-3	p-Xylene	ND	0.5
		4-Bromofluorobenzene	Surrogate % Recovery = 81	
		1,2-Dichlorobenzene-d4	Surrogate % Recovery = 90	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Workorder Text

Radionuclide Analyses

Sample ID: MW3

PARAMETER	RESULTS(pCi)	LOWER LEVEL OF DETECTION	DATE ANALYZED
Gross Alpha (1)	214	30.1	07/31/96
Gross Beta (1)	231	18.6	07/31/96
Gamma (2)	ND	4.4	07/30/96
Radium 226 (3)	7.8	0.5	07/30/96
Radium 228 (4)	2.3	0.7	07/30/96
Tritium (5)	ND	150	07/29/96
Strontium (6)			

Nitroaromatics (7)	RESULTS ug/L	PRACTICAL QUANT. LIMIT	DATE ANALYZED
1,3-Dinitrobenzene	ND	0.30	07/29/96
HMX	ND	1.0	07/29/96
Nitrobenzene	ND	0.50	07/29/96
2-Nitrotoluene	ND	0.25	07/29/96
3-Nitrotoluene	ND	0.25	07/29/96
4-Nitrotoluene	ND	0.25	07/29/96
RDX	ND	0.85	07/29/96
Tetryl	ND	1.0	07/29/96
1,3,5-Trinitrobenzene	ND	0.45	07/29/96
2,4,6-Trinitrotoluene	ND	0.26	07/29/96
2-AM-4, 6-DNT	ND	0.26	07/29/96
4-Am-2, 6-DNT	ND	0.26	07/29/96
2,6-Dinitrotoluene	ND	0.25	07/29/96
2,4-Dinitrotoluene	ND	0.26	07/29/96

Workorder Text

Method References:

(1) EPA Method 900.0

(2) EPA Method 901.1

(3) EPA Method 903.1

(4) EPA Method 904.0

(5) EPA Method 906.0

(6) EPA Method 905.0

(7) 8330 Explosives_38019

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ANTIMONY by ICP
Method 6010, Test Methods for Evaluating Solid Waste, EPA-SW486, 1986 Edition

Test: ARSENIC by furnace AA
Method 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: BARIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: BERYLLIUM by furnace AA
Method 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: CADMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: CHROMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: CYANIDE, TOTAL
Method 335.3, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: EDB & DBCP in water
Method 504.1, Methods for the Determination of Organic Compounds in Drinking

Test Methodologies

Test: EDB & DBCP in water
Water, EPA-600/4-88/039, December, 1988 (revised 1993).

Test: FLUORIDE
Method 4500-F-B Standard Methods for teh Examination of Water and Wastewater 18th Edition, 1992

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: LEAD by furnace AA
Method 239.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MERCURY by cold vapor AA
Method SM 3112B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: NICKEL by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: NITRATE as NITROGEN
Method 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition, 1996.

Test: NITRITE-NITRATE, as N
Method 353.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ODOR
Method 140.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: POTASSIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SELENIUM by furnace AA
Method SM 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: SILVER by flame AA
Method 272.1, Methods for Chemical Analysis of Water and Wastes,

Test Methodologies

Test: SILVER by flame AA
EPA-600/4-79-020, 1983 Revision.

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method 375.4, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: THALLIUM by furnace AA
Method 200.9, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79,1983 Revision.

Test: TOTAL COLIFORM BACTERIA
Method 909A, Standard Methods for the Examination of Water and Wastewater, 16TH Edition, 1985.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, 1983 Revision.

Test: VOLATILES 524.2
Method 524.2, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Chain of tody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01
(413)572-3200 fax(413)572-32

Client: | Job#/Proj. Manager: | Workorder # | COC #

Address: | Work ID:

Contact:

Phone: | Collected by:

Shaded areas for office use

Comments (Special Instructions)

1. VOCs, soil
2. Boron
3. VOCs, soil
4. Metals

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits? (✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other

Relinquished by: | Date: | Time: | Received by: | Date: | Time:

Relinquished by: | Date: | Time: | Received by: | Date: | Time:

Relinquished by: | Date: | Time: | Received by: | Date: | Time:

Method of shipment: | Laboratory:

Cooler #:

Temp. @ receipt:

Preservation pH checked

By: Date:

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01
(413)572-3200 fax(413)572-321

Client: | Job#/Proj. Manager: | Workorder # | COC #

Address: | Work ID: | Shaded areas for office use | Comments (Special Instructions)

Contact: | Analysis Requested

Phone: | Collected by:

Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

1.
2.
3.
4.

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other

Relinquished by: | Date: | Time: | Received by: | Date: | Time:

Relinquished by: | Date: | Time: | Received by: | Date: | Time:

Relinquished by: | Date: | Time: | Received by: | Date: | Time:

Method of shipment: | Laboratory:

Cooler #:

Temp. @ receipt:

Preservation pH checked

By: Date:

LOCKHEED MARTIN

Lockheed Analytical Services

COMMONWEALTH ANALYTICAL

ANALYTICAL DATA REPORT

FOR

EXPLOSIVES

LOG-IN NUMBER: L7508

QUOTATION NUMBER: Q613656

DOCUMENT FILE NUMBER: 0725702

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

LOCKHEED MARTIN

July 31, 1996

Ms. Christine Reynolds
Commonwealth Analytical
53 Southhampton Road
Westfield, MA 01085

RE: Log-in No.: L7508
Quotation No.: Q613656
Document File No.: 0725702

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 25 July 1996.

The temperature of the cooler upon receipt was 20°C. The sample containers coincided with the chain-of-custody documentation. All sample containers were received intact. Samples were received in time to meet the analytical holding time requirements. All discrepancies (if applicable) identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records. (See attached Sample Receiving Checklist for details).

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Martin Dillon at (702) 361-3955, ext 296. If you are unable to contact the Client Services Representative, please call Mary B. Ford, Client Services Manager, at extension 335.

Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

Sincerely,

Martin Dillon
Client Services Representative

cc: Client Services
Document Control

CASE NARRATIVE
ORGANIC ANALYSES

Analytical Method 8330 Explosives

Analytical Batch 072996-8330-HPLCB-1

The samples were extracted within the required holding time on July 26, 1996 and analyzed within the required holding time on July 29, 1996. All initial and continuing calibrations met criteria. There were no target compounds detected in the Method Blank (39376MB). The surrogate recovery of 4-Nitroaniline was within QC limits. A Laboratory Control Sample (39376LCS) and Laboratory Control Sample Duplicate (39376LCSDUP) were extracted and analyzed in place of a Matrix Spike (MS) and Matrix Spike Duplicate (MSD). Compound recoveries were within QC limits in the 39376LCS and 39376LCSDUP. The Relative Percent Differences (RPDs) between the 39376LCS and 39376LCSDUP recoveries were within QC limits.

Prepared By
Patricia Lonergan

July 31, 1996

Lockheed Analytical Services
DATA QUALIFIERS FOR ORGANIC ANALYSES

[Revised 02/09/1996]

For Use On The Analytical Data Reporting Forms	
A	***For CLP analyses Only*** -- The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL).
C	Constituent confirmed by GC/MS analysis. *[pesticide/PCB analyses only]*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to surrogates being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* -- (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(For CLP Reporting Only)***.
N	***For CLP Reporting Only*** -- Tentatively identified constituents (TICs) identified based on mass spectral library search.
NQ	Analyte detected, but Not Quantified; see result from subsequent analysis
P	***For CLP Reporting Only*** -- The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only]*.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an "*as received*" basis. A value in the % moisture cell indicates that data are reported based on a "*dry weight*" basis.
For Use On The QC Data Reporting Forms	
*	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC Summary Form.

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GC3A AND GCMS3A
FOR SDG/LOG-IN NUMBER L7508

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B. Sample Data

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- Matrix Spike Data*
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* - If Applicable
Note: Each section and subsection is separated by blue divider sheets.

SAMPLE RECEIPT LOG-IN
AND
CHAIN OF CUSTODY

OK TO File MD 7/29/96

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jul 25 1996, 01:21 pm

Login Number: L7508
Account: 702 COMMONWEALTH ANALYTICAL
Project: 8330 RUSH

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L7508-1	9607361-01L	23-JUL-96	25-JUL-96		30-JUL-96
temp 20					
Location: RFG01-08B					
Water 1 S 8330	EXPLOSIVES	Hold:30-JUL-96			
L7508-2	9607361-01L	23-JUL-96	25-JUL-96		30-JUL-96
temp 20					
Location: RFG01-08B					
L7508-3	REPORT TYPE	25-JUL-96	25-JUL-96		30-JUL-96
Location:					
Water 1 S	DILLON				
Water. 1 S	GC3A				

Signature: Arm Ille

Date: 7-25-96

07257C2

L1508

Chain of tody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01
(413)572-3200 fax(413)572-3

Client: Commonwealth Analytical Job#/Proj. Manager:

Address: 53 Southampton Rd. Work ID:
Westfield, MA Contact: Chris Reynolds.

Phone: (413) 572-3200 Collected by:

Workorder #

COC #

Shaded areas for office use

Comments (Special Instructions)

① Nitroaromatics

5-Day T.A.T please

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	9607361-01L	GW	7-23-96 12:00	✓		2	G																			

Relinquished by: Christine Reynolds Date: 7/24/96 Time:
Received by: Date: 7-25-96 Time: 0852

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Method of shipment:
Laboratory: LAS

Cooler #:
Temp. @ receipt:
Preservation pH checked
By: Date:

f:\data\excel\COCA-C.XLS rev.5/94

CommonwealthAnalytical

Re: Nitro aromatics

Date: 7-24-96

Lockheed Env.
975 Kelly Johnson Dr
Las Vegas, NV 89119

Att. Sample Receipt

We are sending:

☐ report(s) ☐ proposal ☐ other _____ ☐ other documents

as listed below:

No. Copies	Description
2	9607361-011 - Groundwater

☐ for your file

☐ as requested by _____

☐ revise and/or resubmit

☒ P.O. # 96-07179

Remarks Please analyze for Nitroaromatics
We're requesting a 5 Day T.A.T please
Please supply Batch QC information per
previous work

Copies to:
Please call with
any questions

Very truly yours,
Commonwealth Analytical

Christine Lamantia Lynch

Westfield Executive Park · 53 Southampton Road · Westfield, MA 01085-5308 · Tel. 413-572-3200 · Fax 413-572-3215
12020 Sunrise Valley Drive · Suite 100 · Reston, VA 22091-3429 · Tel. 703-391-2770 · Fax 703-391-2766
A division of Tighe & Bond, Inc.

07257

LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number L7508

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?	X		X	

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

primary review signature	date	secondary review signature	date
[signature]	7-25-96	[signature]	7-25-96

07-252

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Commercial/rh Analytical Job No. L7508 Cooler ID:

COOLER CONDITION UPON RECEIPT			
Temperature of cooler upon receipt:	20°C		notified Marty Dillon
temperature of temp. blank upon receipt:			
	Yes	No	* Comments/Discrepancies
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen		X	no ice frozen
rad survey completed	X		

SAMPLE CONDITION UPON RECEIPT			
	Yes	No	* Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace		X NA	NA
are samples bi-phasic (if so, indicate sample ID'S):			NA

MISCELLANEOUS ITEMS			
	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		X	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [signature]

Sent to the client (date/initials): ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146*

version 2.0 (11/11/94)

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
COMMONWEALTH ANALYTICAL

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
9607361-01L	L7508-1		Water	8330 EXPLOSIVES
REPORT TYPE	L7508-3		Water	DILLON
	L7508-3		Water	GC3A

C7257C

EPA METHOD 8330 (Explosives)

SAMPLE RESULTS FORMS AND QC SUMMARIES

LOCKHEED ANALYTICAL SERVICES

OSIVES BY HPLC
8... EXPLOSIVES

Client Sample ID:	9607361-01L	LAL Sample ID:	L7508-1
Date Collected:	23-JUL-96	Date Received:	25-JUL-96
Date Analyzed:	29-JUL-96	Analytical Batch ID:	072996-8330-HPLCB-1
Date Extracted:	26-JUL-96	Analytical Dilution:	1
Matrix:	Water	Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_39376

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	67%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	<0.26	0.26	
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

OSIVES BY HPLC

Client Sample ID:	Method Blank	LAL Sample ID:	39376MB
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	29-JUL-96	Analytical Batch ID:	072996-8330-HPLCB-1
Date Extracted:	26-JUL-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_39376

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	63%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	<0.26	0.26	
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

'KED SAMPLE RESULT
.OSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	39376LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	29-JUL-96	Analytical Batch ID:	072996-8330-HPLCB-1
Date Extracted:	26-JUL-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_39376

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	69%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
1,3-Dinitrobenzene	99-65-0	1.6	0.30	
HMX	2691-41-0	1.5	1.0	
Nitrobenzene	98-95-3	1.4	0.50	
2-Nitrotoluene	88-72-2	1.4	0.25	
3-Nitrotoluene	99-08-1	1.5	0.25	
4-Nitrotoluene	99-99-0	1.6	0.25	
RDX	121-82-4	1.6	0.85	
Tetryl	479-45-8	1.8	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.7	0.45	
2,4,6-Trinitrotoluene	118-96-7	1.8	0.26	
2-Am-4,6-DNT	35572-78-2	1.8	0.26	
4-Am-2,6-DNT	1946-51-0	1.8	0.26	
2,6-Dinitrotoluene	606-20-2	2.0	0.25	
2,4-Dinitrotoluene	121-14-2	1.7	0.26	

LOCKHEED ANALYTICAL SERVICES

"KED SAMPLE RESULT
.OSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample Dup	LAL Sample ID:	39376LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	29-JUL-96	Analytical Batch ID:	072996-8330-HPLCB-1
Date Extracted:	26-JUL-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_39376

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	76%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
1,3-Dinitrobenzene	99-65-0	1.9	0.30	
HMX	2691-41-0	1.7	1.0	
Nitrobenzene	98-95-3	1.6	0.50	
2-Nitrotoluene	88-72-2	1.7	0.25	
3-Nitrotoluene	99-08-1	1.7	0.25	
4-Nitrotoluene	99-99-0	1.7	0.25	
RDX	121-82-4	1.8	0.85	
Tetryl	479-45-8	2.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.9	0.45	
2,4,6-Trinitrotoluene	118-96-7	2.1	0.26	
2-Am-4,6-DNT	35572-78-2	2.0	0.26	
4-Am-2,6-DNT	1946-51-0	2.1	0.26	
2,6-Dinitrotoluene	606-20-2	2.2	0.25	
2,4-Dinitrotoluene	121-14-2	1.9	0.26	

LOCKHEED ANALYTICAL SERVICES

DATA SUMMARY
OSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	39376LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	29-JUL-96	Analytical Batch ID:	072996-8330-HPLCB-1
Date Extracted:	26-JUL-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_39376

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	69%	40-110

Constituent	Spike Added ug/L	LCS Concentration ug/L	LCS % Recovery	QC Limits
1,3-Dinitrobenzene	2.00	1.58	79	48-118
HMX	2.00	1.48	74	43-113
Nitrobenzene	2.00	1.42	71	33-110
2-Nitrotoluene	2.00	1.44	72	42-112
3-Nitrotoluene	2.00	1.51	75	33-110
4-Nitrotoluene	2.00	1.58	79	36-110
RDX	2.00	1.63	81	50-120
Tetryl	2.00	1.81	90	56-126
1,3,5-Trinitrobenzene	2.00	1.65	83	49-119
2,4,6-Trinitrotoluene	2.00	1.82	91	50-120
2-Am-4,6-DNT	2.00	1.79	90	60-120
4-Am-2,6-DNT	2.00	1.85	92	60-120
2,6-Dinitrotoluene	2.00	1.97	99	49-119
2,4-Dinitrotoluene	2.00	1.69	84	44-114

LOCKHEED ANALYTICAL SERVICES

DUPLICATE DATA SUMMARY
OSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample Dup	LAL Sample ID:	39376LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	29-JUL-96	Analytical Batch ID:	072996-8330-HPLCB-1
Date Extracted:	26-JUL-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_39376

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	76%	40-110

Constituent	Spike Added ug/L	LCS DUP Concentration ug/L	% Recovery	RPD	QC Limits RPD	QC Limits % Recovery
1,3-Dinitrobenzene	2.00	1.85	93	16	30	48-11
HMX	2.00	1.72	86	15	30	43-11
Nitrobenzene	2.00	1.57	79	10	30	33-11
2-Nitrotoluene	2.00	1.70	85	17	30	42-11
3-Nitrotoluene	2.00	1.66	83	10	30	33-11
4-Nitrotoluene	2.00	1.66	83	5	30	36-11
RDX	2.00	1.82	91	11	30	50-12
Tetryl	2.00	2.04	102	12	30	56-12
`.5-Trinitrobenzene	2.00	1.94	97	16	30	49-11
6-Trinitrotoluene	2.00	2.05	103	12	30	50-12
.m-4,6-DNT	2.00	2.03	102	13	30	60-12
4-Am-2,6-DNT	2.00	2.09	104	12	30	60-12
2,6-Dinitrotoluene	2.00	2.18	109	10	30	49-11
2,4-Dinitrotoluene	2.00	1.90	95	12	30	44-11

SAMPLE DATA

Lockheed Analytical Services

Data Reprocessed On 07/30/1996 11:26:53

Sample Name: L7508-1 Date: 07/29/1996 19:37:21
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d12
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

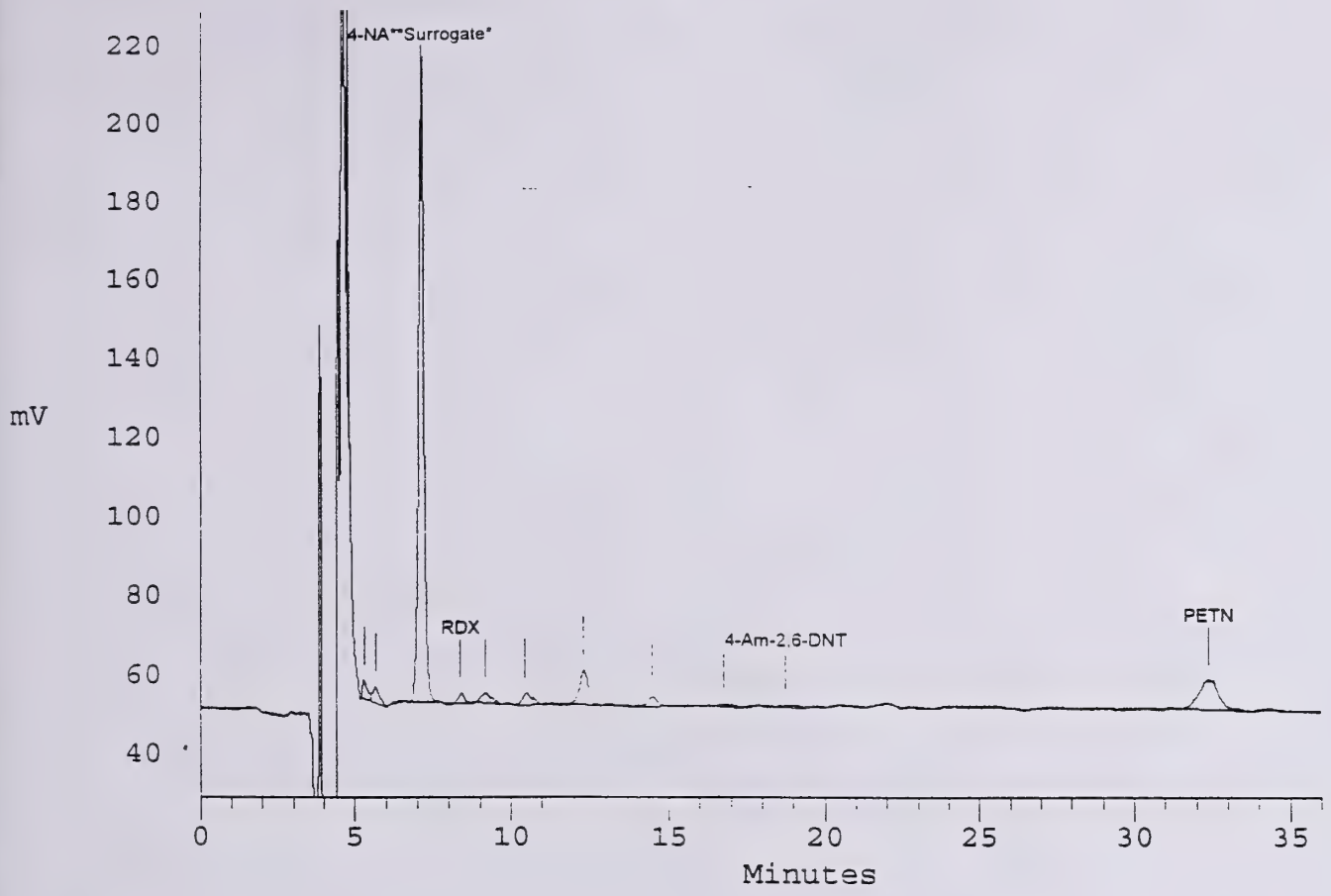
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
4	7.10	1.43	4-NA**Surrogate*	1848455	8.351
5	8.37	0.80	RDX	38977	0.148
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
11	18.77	1.81	4-Am-2,6-DNT	17087	0.044
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
12	32.40	-1.02	PETN	337571	1.034
			Totals	2242090	9.577

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Component Name	Area	Concentration ppb
1	4.70		967125	0.000
2	5.30		54156	0.000
3	5.67		61726	0.000
6	9.17		65230	0.000
7	10.47		65496	0.000
8	12.30		155539	0.000
9	14.47		55494	0.000
10	16.77		20778	0.000
		Totals	1445543	0.000

File: 07299601.d12 Sample: L7508-1



CALIBRATION DATA

DIONEX METHOD PARAMETERS - 072996.MET

DK 7/30/97

Method Comment: 0.75 ml/min 30 degrees 47/53 water/methyl alcohol, 254nm until 26 minutes then 210 nm
Column ID: ULTRACARB 5 ODS-20 250X4.6 86610
Analyst ID: D. Percy

System Parameters

System Name: GC/PID/ELCD	
Number of Detectors	1
Run Time (minutes)	36.00
Sampling Rate (seconds)	0.20
Detector 1 Type	UV/Vis
Detector 1 real time plot scale maximum (mV)	200.000
minimum	0.000
Detector 1 Output Equivalent to 1 Volt (in mV)	1000.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes
Data File Name: D:\DX\DATA\HPLCB\8330\072596\07259601.DC5	

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	No
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	No
Print Unknown Peaks	Yes
Print Chromatogram	No
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	5.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	5.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Integration Parameters

Starting Peak Width (seconds)	20.0
Peak Threshold	0.800
Peak Area Reject	5000
Area Reject for Reference Peaks	1000

Data Events

Time	Description
0.00	Stop peak detection
4.62	Start peak detection

Calibration Parameters

Number Of Levels for Calibration	6
Force Calibration Curve Through Origin	Yes
Calibration Fit Type	Linear
Replace Or Average Calibrations	Replace
External or Internal Calibration	External
Calculate Unknowns by Area or Height	Area
Default Sample Volume	1.0
Default Dilution Factor	1.0
Default Response Factor for Unknown Peaks	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	ug/g

Component Table -- Last Modified: 11:08 on Tue, 30 Jul 1996

Component # 1 HMX Retention Time 5.47
Reference Comp. none Window Size 2.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.69994E-007

Level	Amount	Area	Height
1	2.00000E-002	30931	3522
2	4.00000E-002	90205	9234
3	1.00000E-001	275314	32015
4	2.50000E-001	704019	74271
5	5.00000E-001	1449299	141972
6	8.00000E-001	2085017	216616

Component # 2 4-NA**Surrogate* Retention Time 7.00
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.61433E-007

Level	Amount	Area	Height
1	8.00000E-002	227642	12271
2	2.00000E-001	516356	27499
3	5.00000E-001	1468651	91377
4	1.26000E+000	3651797	191278
5	2.52000E+000	7324369	375955
6	4.02000E+000	10818129	571882

Component # 3 RDX Retention Time 8.30
Reference Comp. none Window Size 4.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.03009E-007

Level	Amount	Area	Height
1	2.00000E-002	50747	2959
2	4.00000E-002	120881	7093
3	1.00000E-001	331097	20857
4	2.50000E-001	863890	46376
5	5.00000E-001	1730598	92934
6	8.00000E-001	2573721	139446

Component # 4 135-Trinitrobenze Retention Time 11.23
Reference Comp. none Window Size 4.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.37049E-007

Level	Amount	Area	Height
1	2.00000E-002	118825	6398
2	4.00000E-002	307402	16012
3	1.00000E-001	776083	44423
4	2.50000E-001	1931894	102541
5	5.00000E-001	3907214	203327
6	8.00000E-001	5613338	306365

Component # 5 1,3-Dinitrobenzen Retention Time 13.67
Reference Comp. none Window Size 4.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.00884E-007

Level	Amount	Area	Height
1	2.00000E-002	159454	6985
2	4.00000E-002	385926	15977
3	1.00000E-001	1046366	48802
4	2.50000E-001	2568029	111028
5	5.00000E-001	5254941	222918
6	8.00000E-001	7689510	328963

Component # 6 Tetryl Retention Time 14.80
Reference Comp. none Window Size 2.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.67811E-007

Level	Amount	Area	Height
1	2.00000E-002	102418	4076
2	4.00000E-002	232947	9754
3	1.00000E-001	615835	28548
4	2.50000E-001	1489458	64780
5	5.00000E-001	3023630	132424
6	8.00000E-001	4737281	254842

Component # 7 Nitrobenzene Retention Time 15.43
Reference Comp. none Window Size 2.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.69086E-007

Level	Amount	Area	Height
1	2.00000E-002	99582	3615
2	4.00000E-002	247905	9173
3	1.00000E-001	621917	26217
4	2.50000E-001	1547772	63062
5	5.00000E-001	3204228	125486
6	8.00000E-001	4528371	188970

Component # 8 Nitroglycerin Retention Time 16.22
Reference Comp. none Window Size 2.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 4.38527E-007

Level	Amount	Area	Height
1	1.00000E-001	126973	3950
2	2.00000E-001	201457	8268
3	5.00000E-001	680967	26893
4	1.00000E+000	1545745	60890
5	1.50000E+000	3160144	123036
6	2.00000E+000	5025413	191686

Component # 9 246-Trinitrotolue Retention Time 17.63
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.74283E-007

Level	Amount	Area	Height
1	2.00000E-002	74089	3175
2	4.00000E-002	217367	7906
3	1.00000E-001	594410	23712
4	2.50000E-001	1498681	57506
5	5.00000E-001	3047361	113632
6	8.00000E-001	4444739	168147

Component # 10 4-Am-2,6-DNT Retention Time 18.43
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.05995E-007

Level	Amount	Area	Height
1	2.00000E-002	63082	2280
2	4.00000E-002	196648	5925
3	1.00000E-001	517585	18654
4	2.50000E-001	1275737	41152
5	5.00000E-001	2591352	82074
6	8.00000E-001	3744886	123512

Component # 11 2-Am-4,6-DNT Retention Time 19.37
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.50556E-007

Level	Amount	Area	Height
1	2.00000E-002	90668	3099
2	4.00000E-002	256491	7418
3	1.00000E-001	715745	23738
4	2.50000E-001	1712458	51942
5	5.00000E-001	3547668	106657
6	8.00000E-001	5133703	157790

Component # 12 2,6-DNT Retention Time 20.60
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.15940E-007

Level	Amount	Area	Height
1	2.00000E-002	68688	2561
2	4.00000E-002	175166	6091
3	1.00000E-001	510042	18631
4	2.50000E-001	1206290	42023
5	5.00000E-001	2417390	84473
6	8.00000E-001	3614667	124545

Component # 13 2,4-DNT Retention Time 21.20
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.15747E-007

Level	Amount	Area	Height
1	2.00000E-002	134355	4379
2	4.00000E-002	340637	10158
3	1.00000E-001	926850	30701
4	2.50000E-001	2272830	71941
5	5.00000E-001	4616508	143802
6	8.00000E-001	6659695	211861

Component # 14 2-Nitrotoluene Retention Time 25.07
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.53910E-007

Level	Amount	Area	Height
1	2.00000E-002	59730	2142
2	4.00000E-002	128109	3796
3	1.00000E-001	421363	11827
4	2.50000E-001	991890	27392
5	5.00000E-001	2049349	56238
6	8.00000E-001	3093116	84131

Component # 15 4-Nitrotoluene Retention Time 26.77
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.04629E-007

Level	Amount	Area	Height
1	2.00000E-002	55875	2075
2	4.00000E-002	131592	3248
3	1.00000E-001	378548	9768
4	2.50000E-001	818139	21396
5	5.00000E-001	1710814	44376
6	8.00000E-001	2573568	65064

Component # 16 3-Nitrotoluene Retention Time 28.87
Reference Comp. none Window Size 3.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.39137E-007

Level	Amount	Area	Height
1	2.00000E-002	88676	2323
2	4.00000E-002	156446	3972
3	1.00000E-001	507047	11434
4	2.50000E-001	1105773	26471
5	5.00000E-001	2139060	51101
6	8.00000E-001	3280231	77901

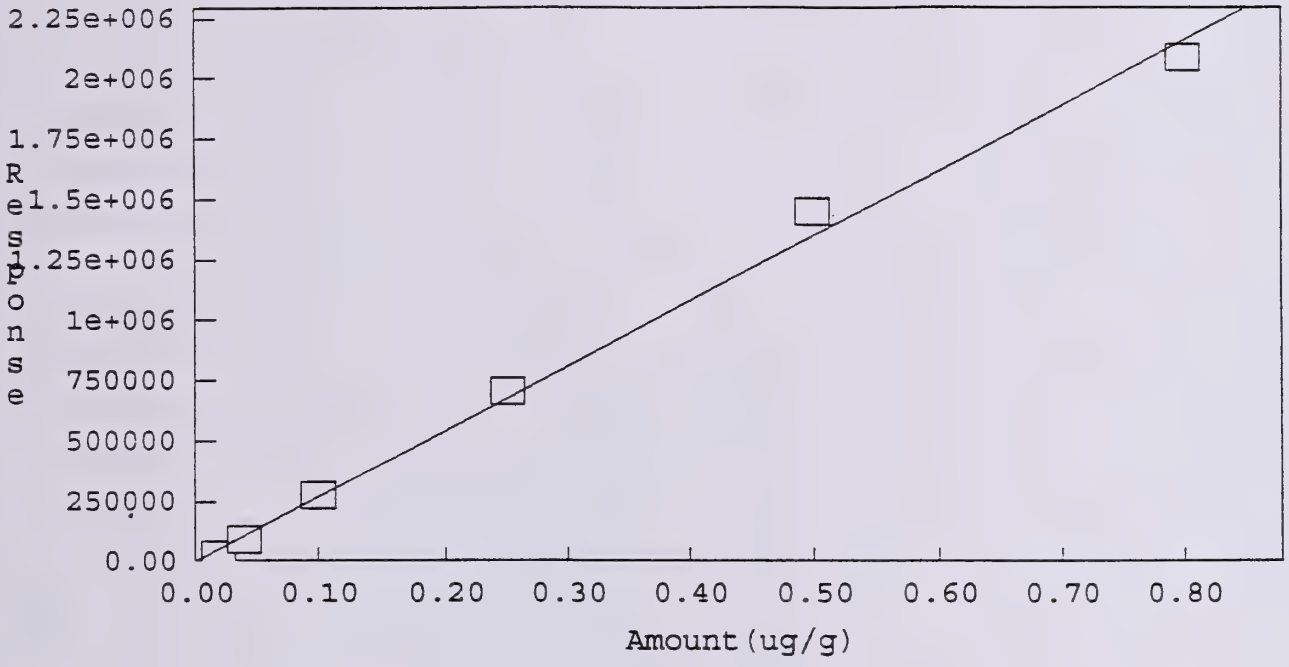
Component # 17 PETN Retention Time 32.73
Reference Comp. none Window Size 2.00 %
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.45119E-007

Level	Amount	Area	Height
1	1.00000E-001	436480	10023
2	2.00000E-001	812881	17888
3	5.00000E-001	2033058	39305
4	1.00000E+000	3554751	80714
5	1.50000E+000	179767	1390
6	2.00000E+000	8504682	188322

-Method Updated: 11:08 on Tue, 30 Jul 1996

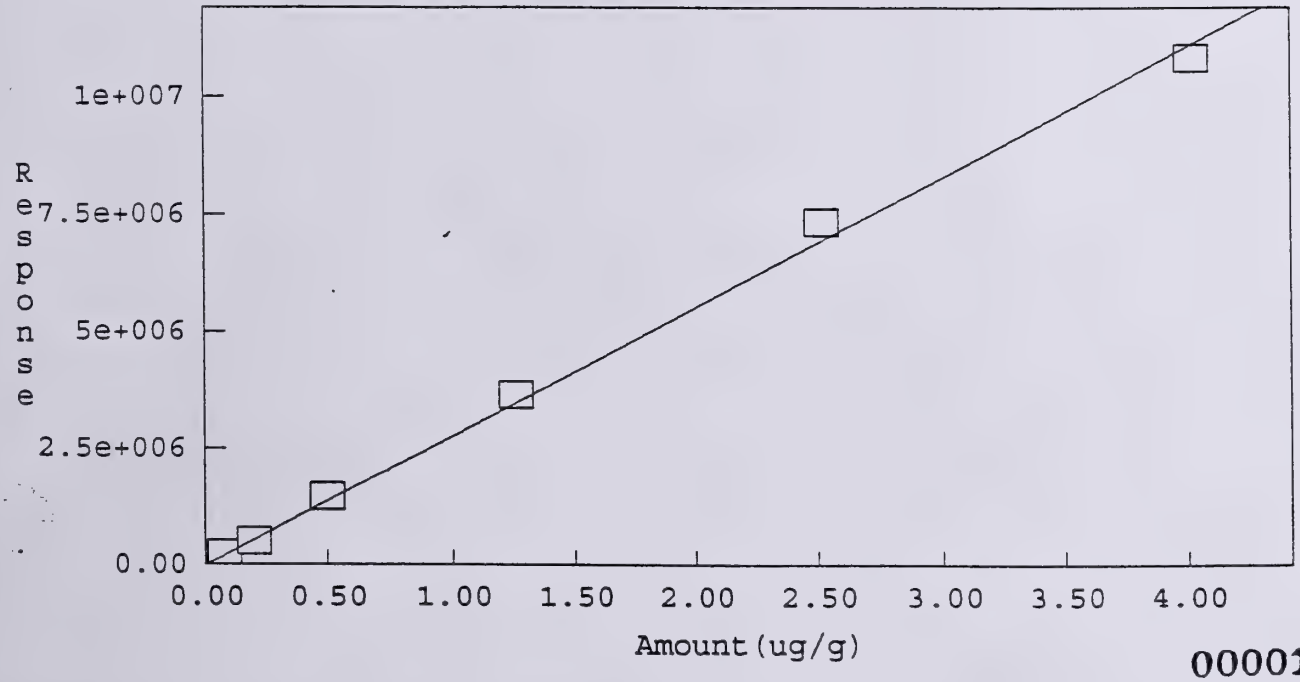
DF 7/30/96

Component: HMX
Fit Type: Linear
r^2 = 0.995057
Amt = Resp * 3.7e-007 + 0
Resp = Amt * 2.703e+006 + 0
Standardization: External
Calibration: Area



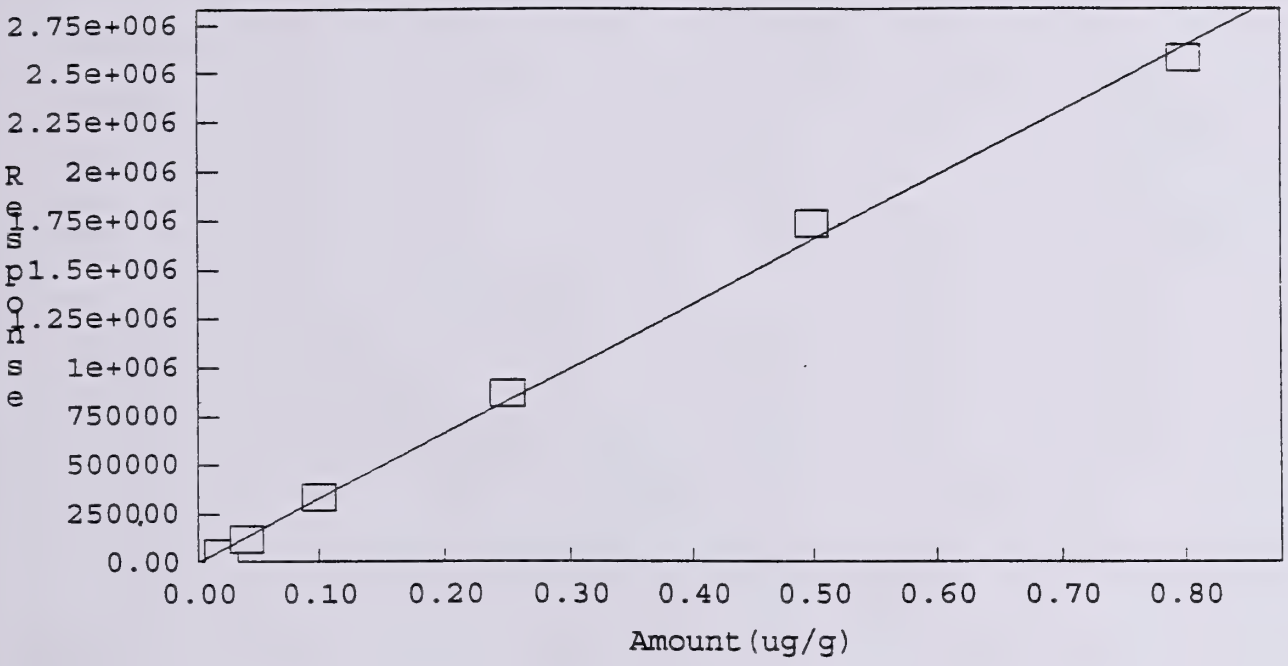
Method: E:\DX\METHOD\8330\072996.MET

Component: 4-NA**Surrogate*
Fit Type: Linear
r^2 = 0.997278
Amt = Resp * 3.614e-007 + 0
Resp = Amt * 2.767e+006 + 0
Standardization: External
Calibration: Area



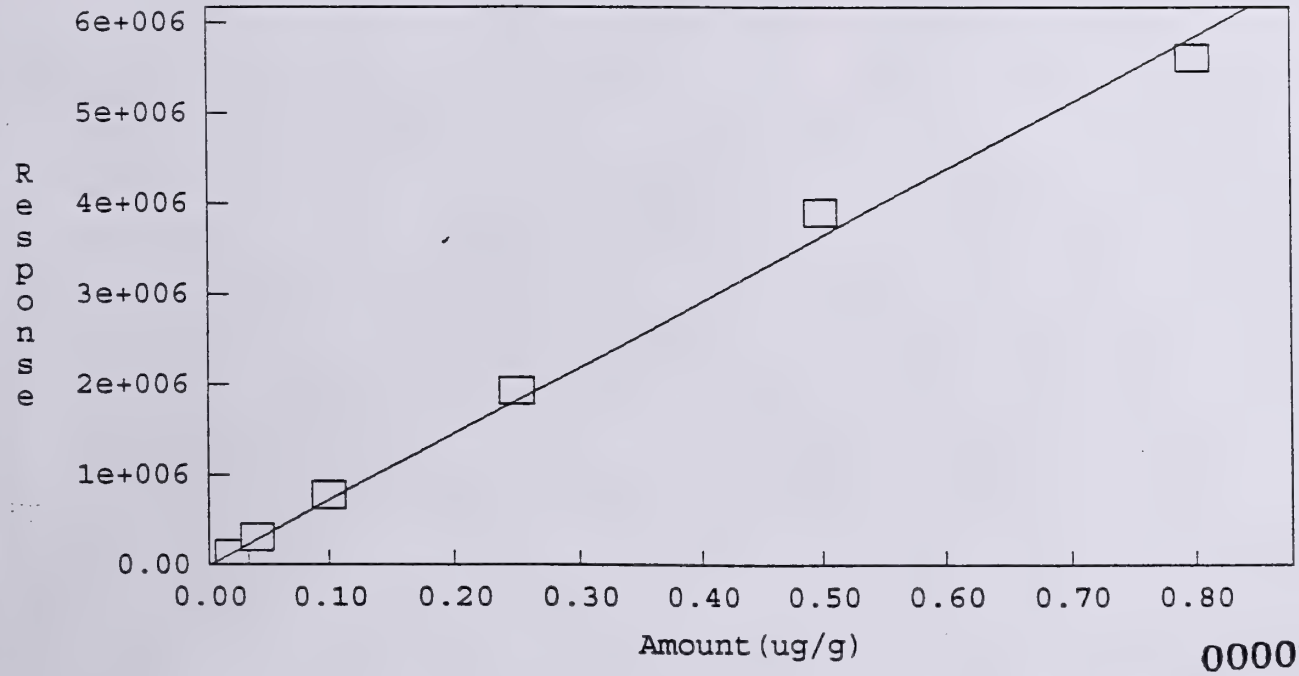
Method: E:\DX\METHOD\8330\072996.MET

Component: RDX
Fit Type: Linear
r^2 = 0.997545
Amt = Resp * 3.03e-007 + 0
Resp = Amt * 3.3e+006 + 0
Standardization: External
Calibration: Area



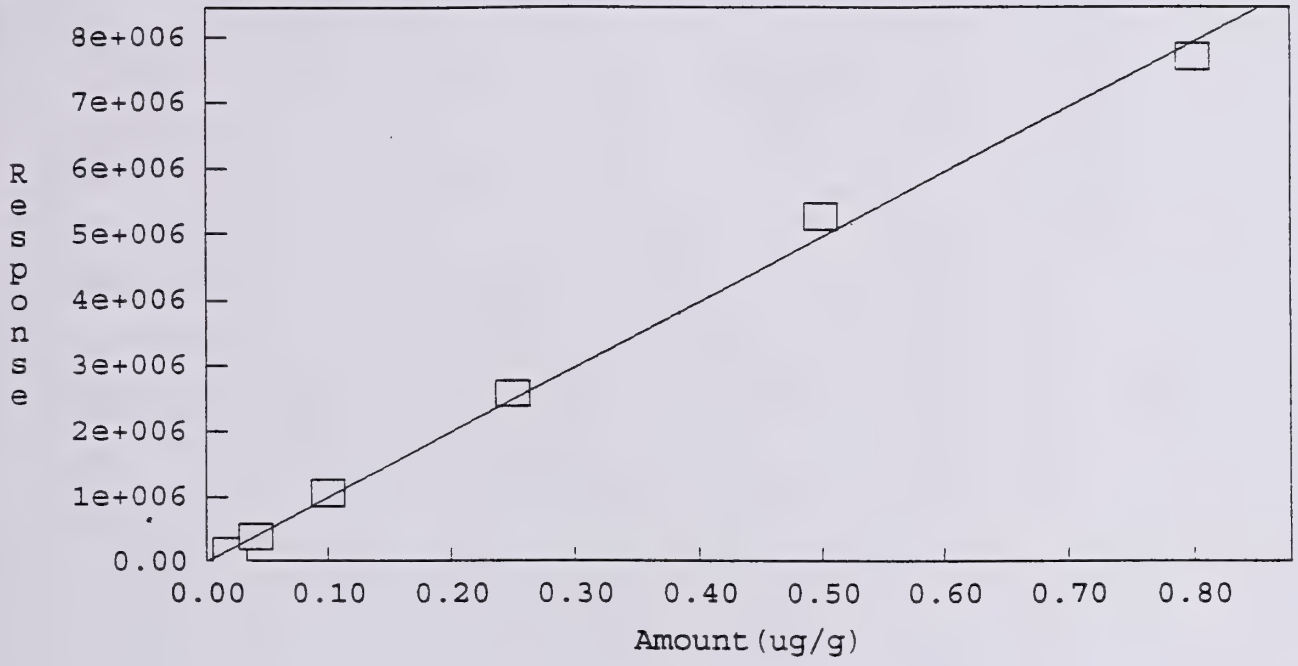
Method: E:\DX\METHOD\8330\072996.MET

Component: 135-Trinitrobenze
Fit Type: Linear
r^2 = 0.994807
Amt = Resp * 1.37e-007 + 0
Resp = Amt * 7.297e+006 + 0
Standardization: External
Calibration: Area



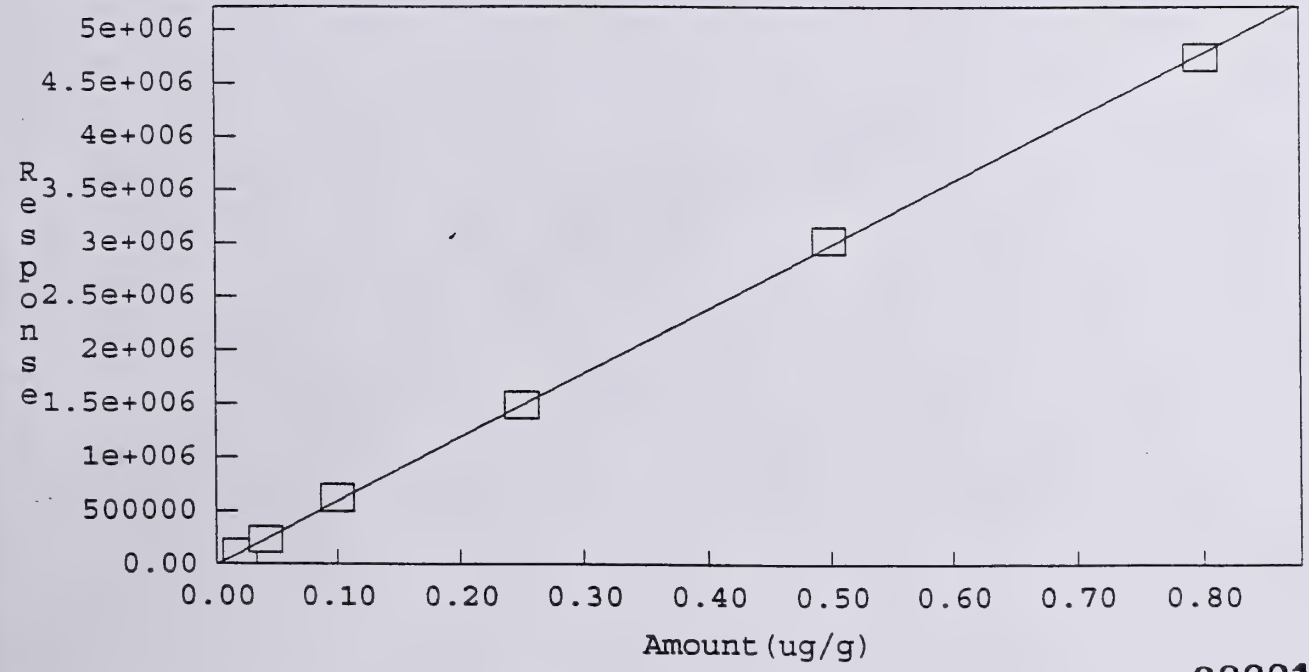
Method: E:\DX\METHOD\8330\072996.MET

Component: 1,3-Dinitrobenzen
Fit Type: Linear
r^2 = 0.996592
Amt = Resp * 1.009e-007 + 0
Resp = Amt * 9.912e+006 + 0
Standardization: External
Calibration: Area



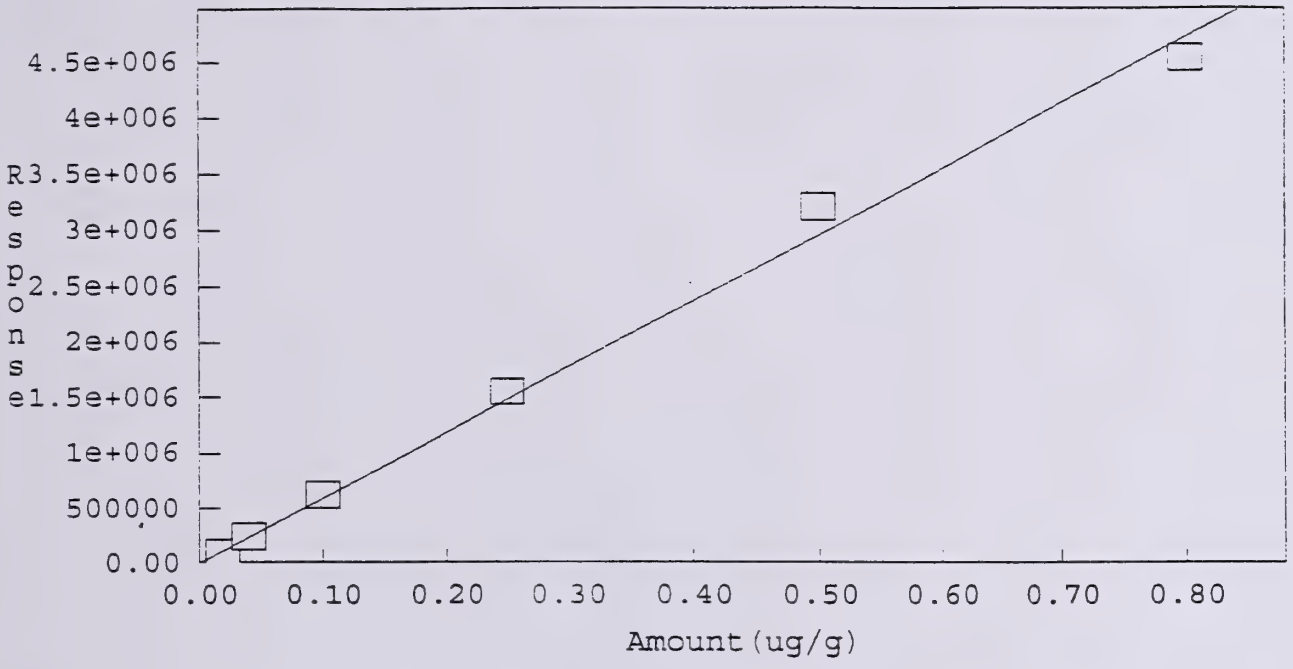
Method: E:\DX\METHOD\8330\072996.MET

Component: Tetryl
Fit Type: Linear
r^2 = 0.999790
Amt = Resp * 1.678e-007 + 0
Resp = Amt * 5.959e+006 + 0
Standardization: External
Calibration: Area



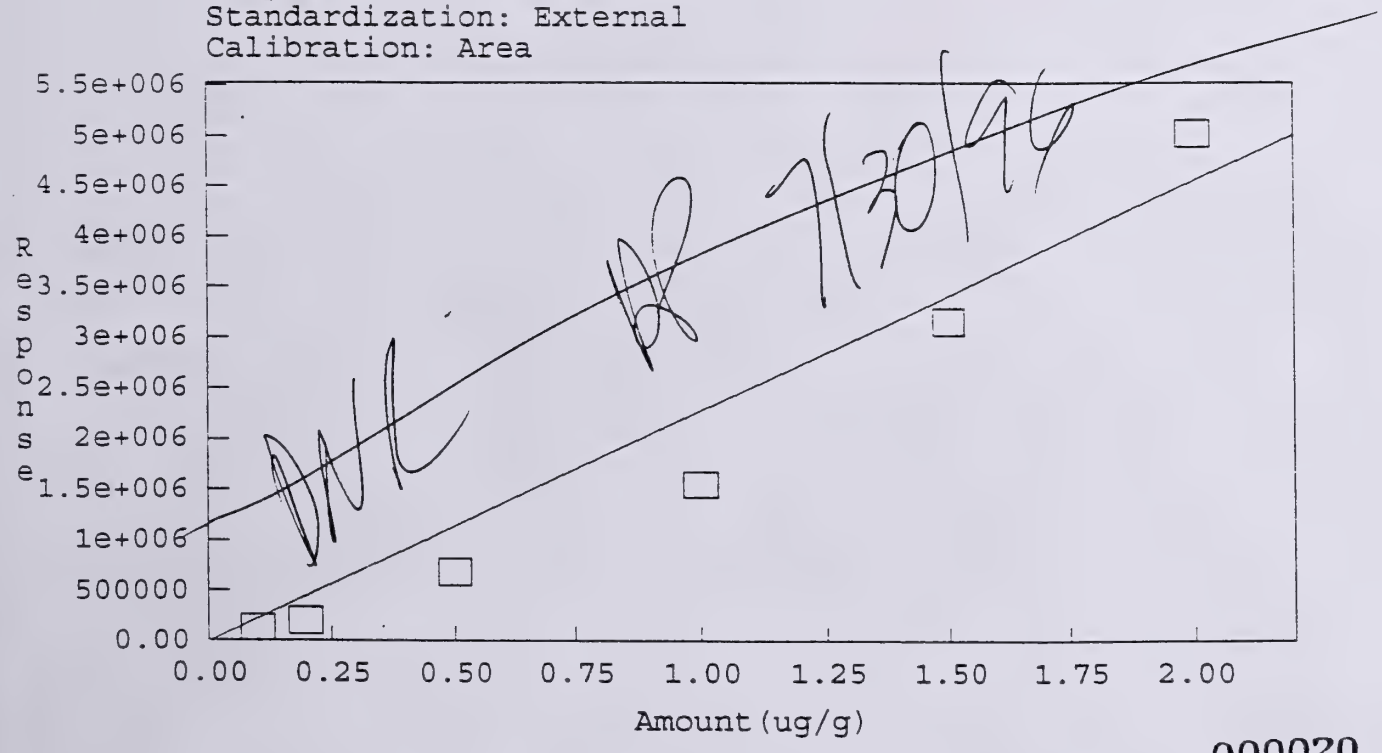
Method: E:\DX\METHOD\8330\072996.MET

Component: Nitrobenzene
Fit Type: Linear
r^2 = 0.993500
Amt = Resp * 1.691e-007 + 0
Resp = Amt * 5.914e+006 + 0
Standardization: External
Calibration: Area



Method: E:\DX\METHOD\8330\072996.MET

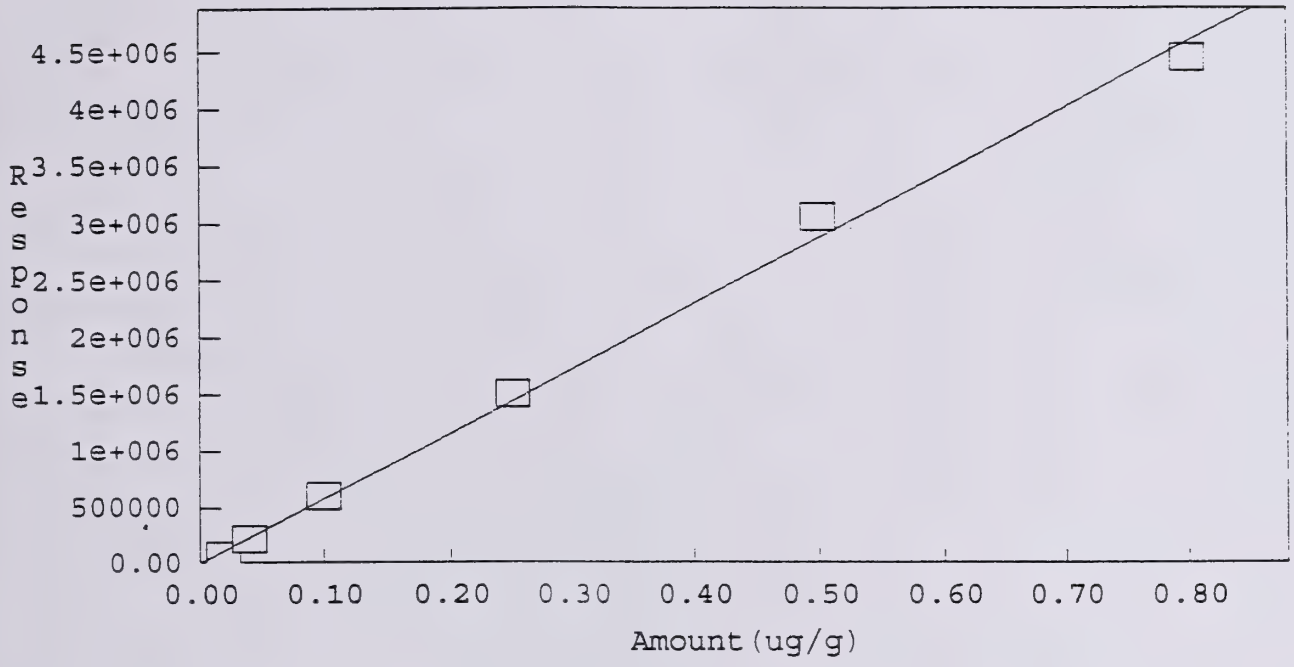
Component: Nitroglycerin
Fit Type: Linear
r^2 = 0.925626
Amt = Resp * 4.385e-007 + 0
Resp = Amt * 2.28e+006 + 0
Standardization: External
Calibration: Area



000020

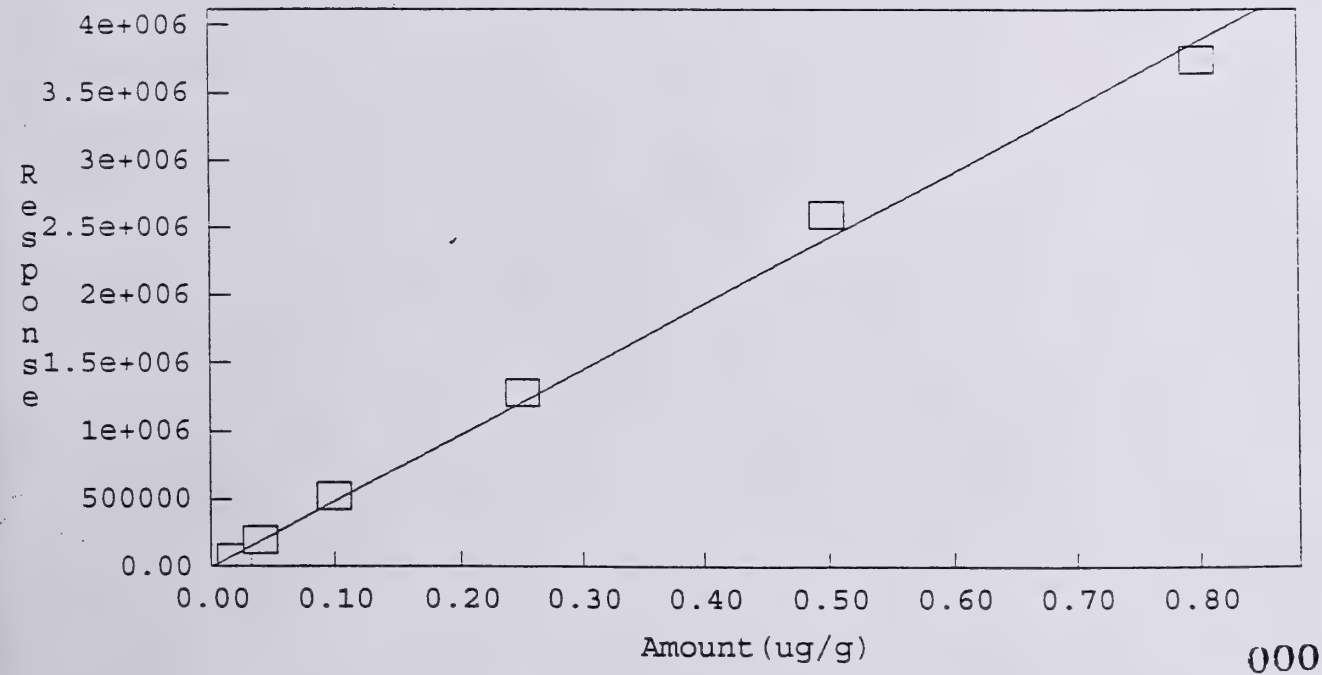
Method: E:\DX\METHOD\8330\072996.MET

Component: 246-Trinitrotolue
Fit Type: Linear
r^2 = 0.996221
Amt = Resp * 1.743e-007 + 0
Resp = Amt * 5.738e+006 + 0
Standardization: External
Calibration: Area



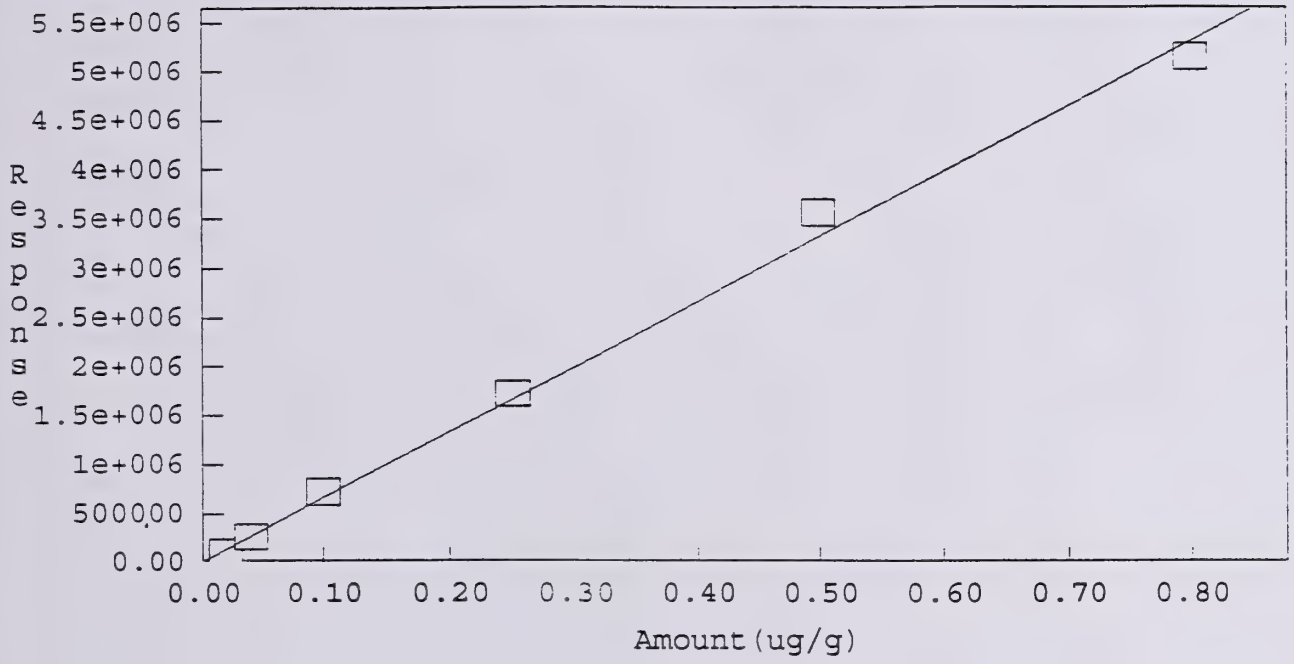
Method: E:\DX\METHOD\8330\072996.MET

Component: 4-Am-2,6-DNT
Fit Type: Linear
r^2 = 0.995356
Amt = Resp * 2.06e-007 + 0
Resp = Amt * 4.854e+006 + 0
Standardization: External
Calibration: Area



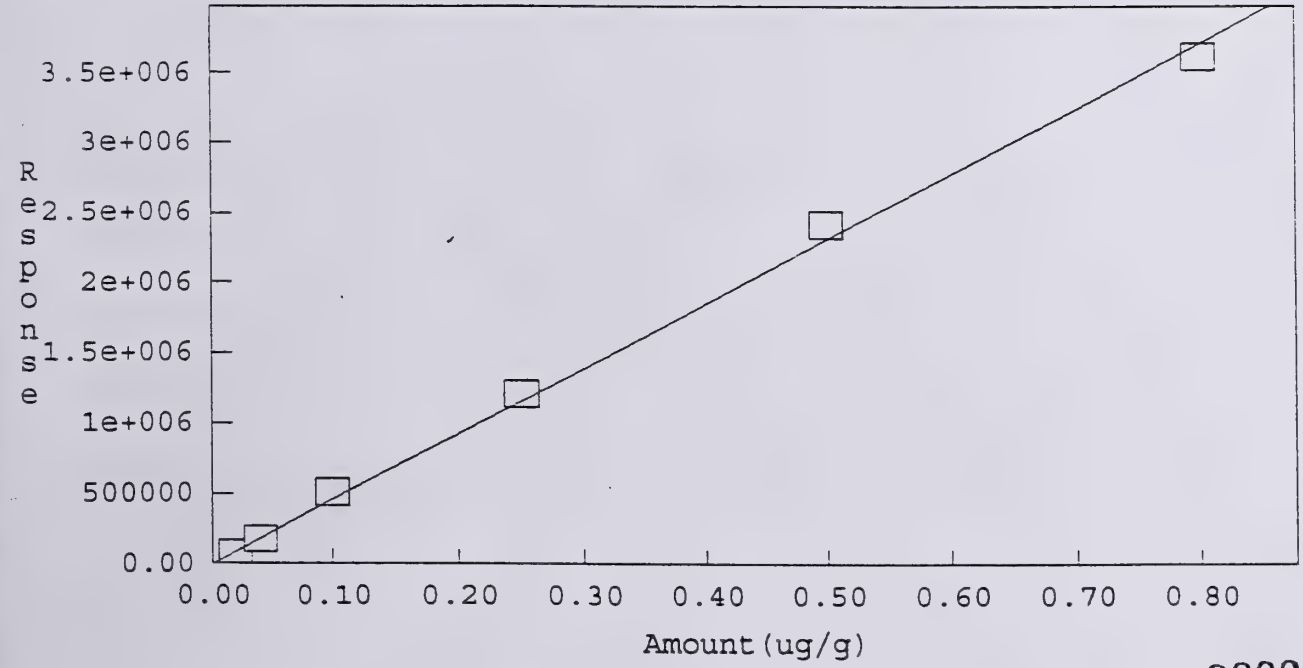
Method: E:\DX\METHOD\8330\072996.MET

Component: 2-Am-4,6-DNT
Fit Type: Linear
r^2 = 0.995679
Amt = Resp * 1.506e-007 + 0
Resp = Amt * 6.642e+006 + 0
Standardization: External
Calibration: Area



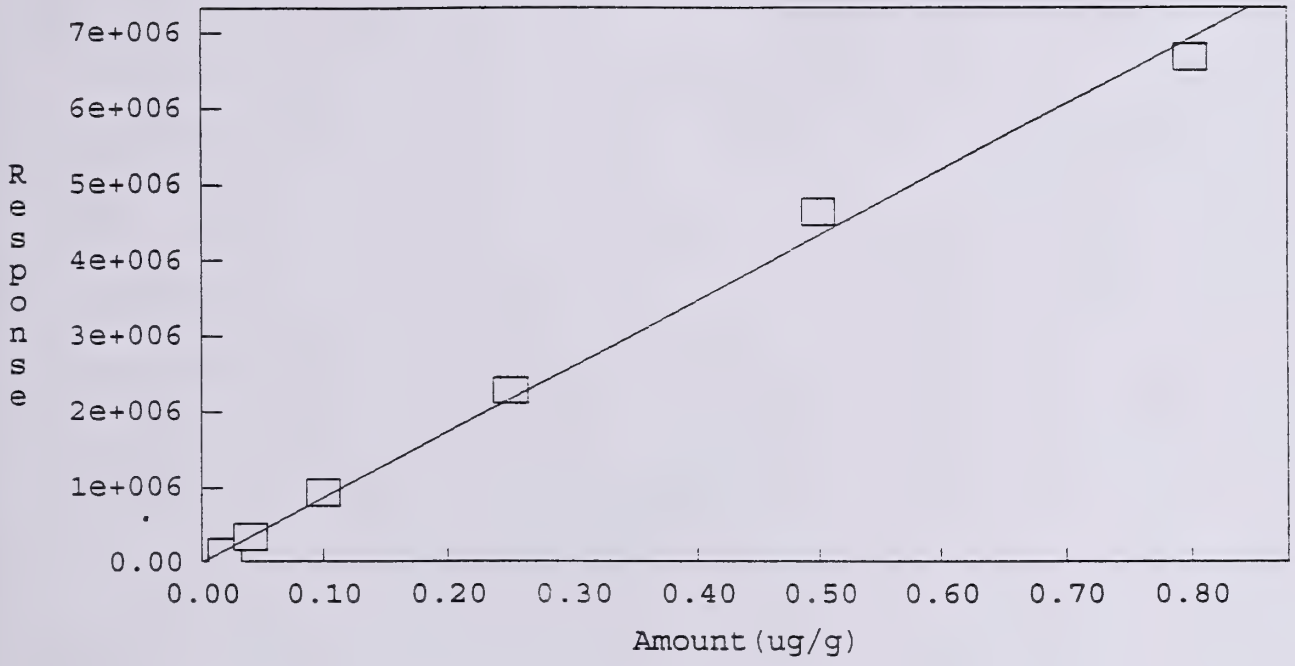
Method: E:\DX\METHOD\8330\072996.MET

Component: 2,6-DNT
Fit Type: Linear
r^2 = 0.997680
Amt = Resp * 2.159e-007 + 0
Resp = Amt * 4.631e+006 + 0
Standardization: External
Calibration: Area



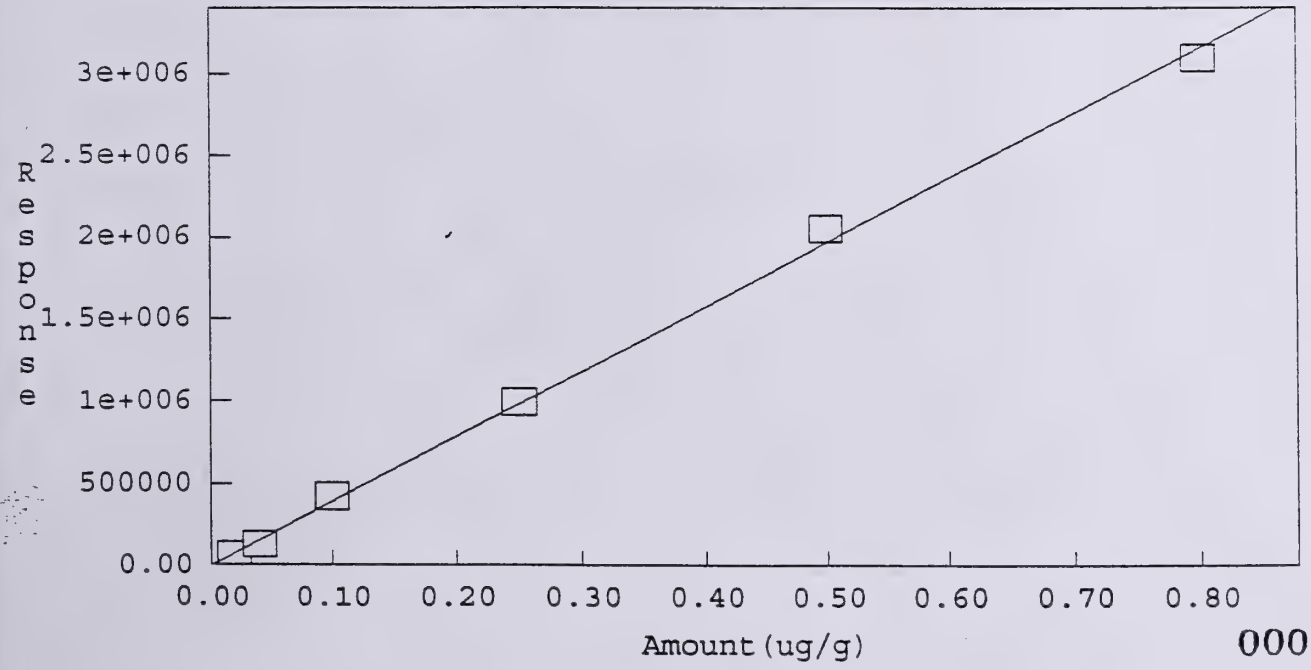
Method: E:\DX\METHOD\8330\072996.MET

Component: 2,4-DNT
Fit Type: Linear
r^2 = 0.995234
Amt = Resp * 1.157e-007 + 0
Resp = Amt * 8.64e+006 + 0
Standardization: External
Calibration: Area



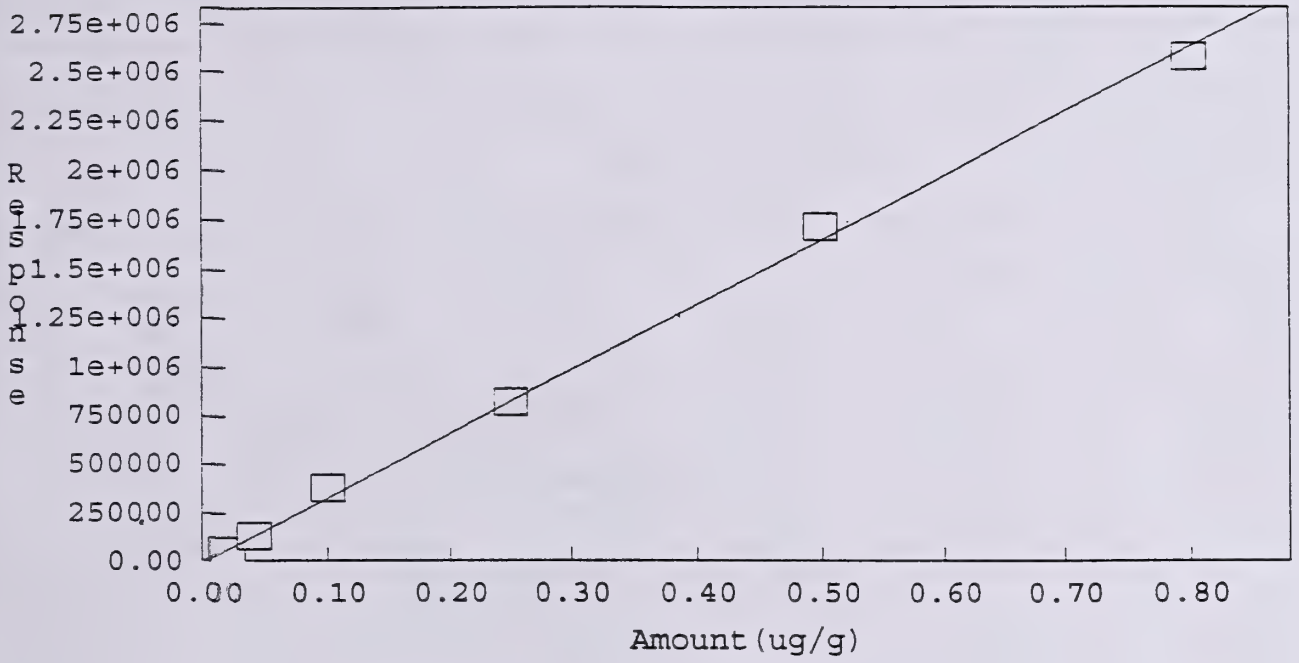
Method: E:\DX\METHOD\8330\072996.MET

Component: 2-Nitrotoluene
Fit Type: Linear
r^2 = 0.998408
Amt = Resp * 2.539e-007 + 0
Resp = Amt * 3.938e+006 + 0
Standardization: External
Calibration: Area



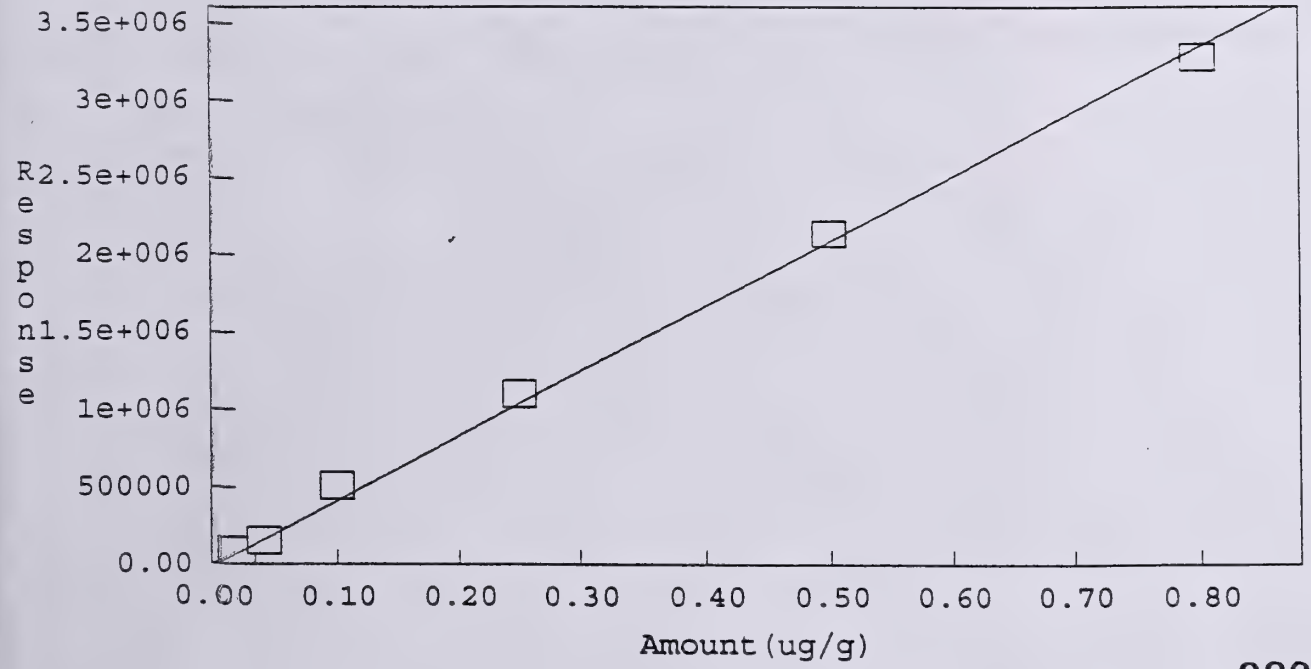
Method: E:\DX\METHOD\8330\072996.MET

Component: 4-Nitrotoluene
Fit Type: Linear
r^2 = 0.998012
Amt = Resp * 3.046e-007 + 0
Resp = Amt * 3.283e+006 + 0
Standardization: External
Calibration: Area



Method: E:\DX\METHOD\8330\072996.MET

Component: 3-Nitrotoluene
Fit Type: Linear
r^2 = 0.997813
Amt = Resp * 2.391e-007 + 0
Resp = Amt * 4.182e+006 + 0
Standardization: External
Calibration: Area



Lockheed Analytical Services

Data Reprocessed On 07/30/1996 11:08:22

Sample Name: AUTOCAL1R Date: 07/29/1996 13:15:47
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d02
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

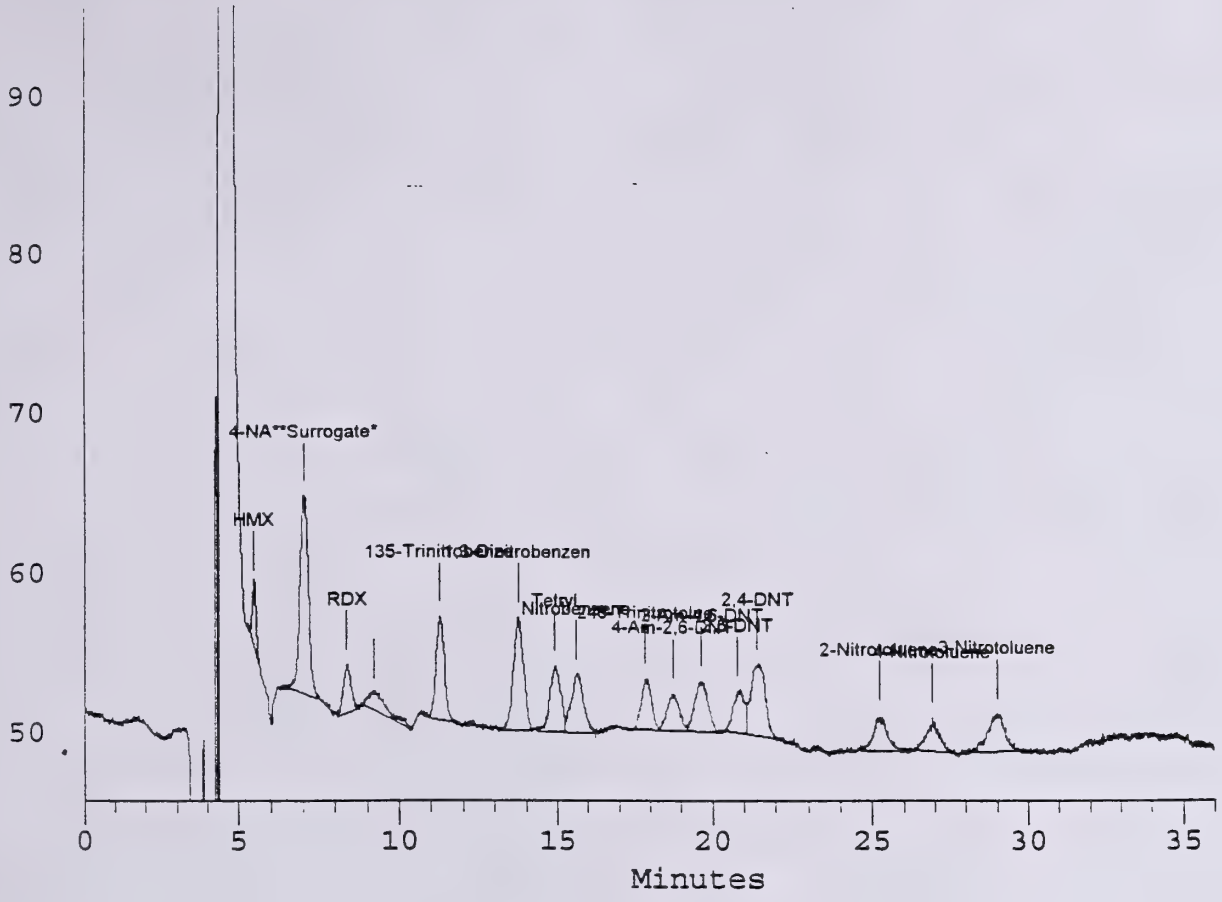
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.47	0.00	HMX	30931	0.020
3	7.03	0.48	4-NA**Surrogate*	227642	0.080
4	8.37	0.80	RDX	50747	0.020
6	11.27	0.30	135-Trinitrobenze	118825	0.020
7	13.77	0.73	1,3-Dinitrobenzen	159454	0.020
8	14.93	0.90	Tetryl	102418	0.020
9	15.63	1.30	Nitrobenzene	99582	0.020
0	0.00	0.00	Nitroglycerin	0	0.000
10	17.87	1.32	246-Trinitrotolue	74089	0.020
11	18.73	1.63	4-Am-2,6-DNT	63082	0.020
?	19.67	1.55	2-Am-4,6-DNT	90668	0.020
3	20.80	0.97	2,6-DNT	68688	0.020
14	21.43	1.10	2,4-DNT	134355	0.020
15	25.23	0.66	2-Nitrotoluene	59730	0.020
16	26.93	0.62	4-Nitrotoluene	55875	0.020
17	29.00	0.46	3-Nitrotoluene	88676	0.020
0	0.00	0.00	PETN	0	0.000
			Totals	1424762	0.360

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.70			2104117	0.000
5	9.20			45581	0.000
			Totals	2149698	0.000

File: 07299601.d02 Sample: AUTOCAL1R



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Data Reprocessed On 07/30/1996 11:08:25

Sample Name: AUTOCAL2R Date: 07/29/1996 13:53:56
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d03
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

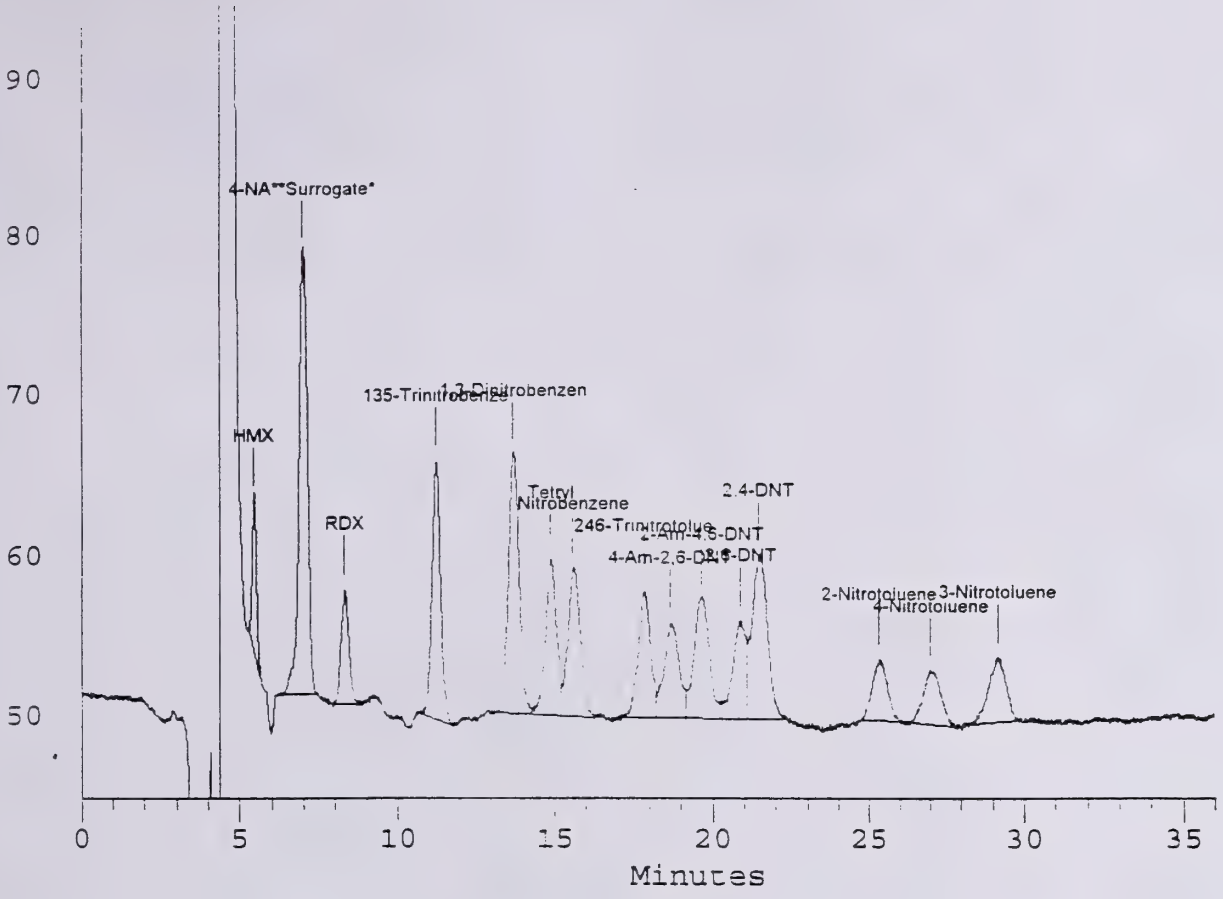
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.43	-0.61	HMX	90205	0.040
2	6.97	-0.95	4-NA**Surrogate*	516356	0.200
3	8.28	-1.04	RDX	120881	0.040
4	11.23	-0.30	135-Trinitrobenze	307402	0.040
5	13.70	-0.48	1,3-Dinitrobenzen	385926	0.040
6	14.90	-0.22	Tetryl	232947	0.040
7	15.60	-0.21	Nitrobenzene	247905	0.040
0	0.00	0.00	Nitroglycerin	0	0.000
8	17.83	-0.19	246-Trinitrotolue	217367	0.040
9	18.67	-0.36	4-Am-2,6-DNT	196648	0.040
0	19.67	0.00	2-Am-4,6-DNT	256491	0.040
1	20.90	0.48	2,6-DNT	175166	0.040
12	21.47	0.16	2,4-DNT	340637	0.040
13	25.33	0.40	2-Nitrotoluene	128109	0.040
14	27.00	0.25	4-Nitrotoluene	131592	0.040
15	29.17	0.57	3-Nitrotoluene	156446	0.040
0	0.00	0.00	PETN	0	0.000
			Totals	3504079	0.760

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

File: 07299601.d03 Sample: AUTOCAL2R



Lockheed Analytical Services

Data Reprocessed On 07/30/1996 11:08:27

Sample Name: AUTOCAL3R Date: 07/29/1996 14:32:06
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d04
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

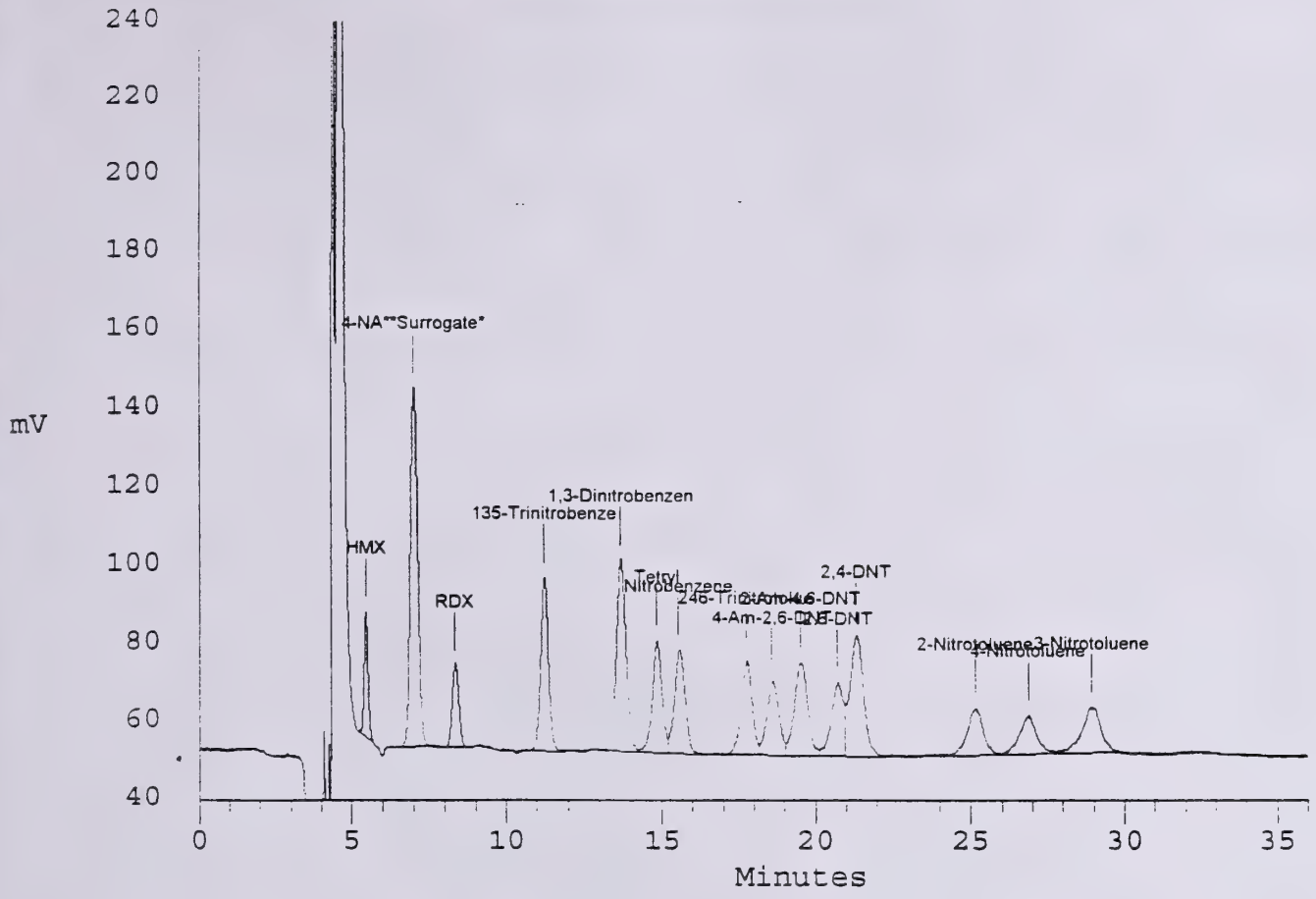
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.47	0.61	HMX	275314	0.100
2	7.00	0.48	4-NA**Surrogate*	1468651	0.500
3	8.30	0.24	RDX	331097	0.100
4	11.23	0.00	135-Trinitrobenze	776083	0.100
5	13.70	0.00	1,3-Dinitrobenzen	1046366	0.100
6	14.87	-0.22	Tetryl	615835	0.100
7	15.57	-0.21	Nitrobenzene	621917	0.100
0	0.00	0.00	Nitroglycerin	0	0.000
8	17.77	-0.37	246-Trinitrotolue	594410	0.100
9	18.60	-0.36	4-Am-2,6-DNT	517585	0.100
0	19.53	-0.68	2-Am-4,6-DNT	715745	0.100
1	20.73	-0.80	2,6-DNT	510042	0.100
12	21.33	-0.62	2,4-DNT	926850	0.100
13	25.17	-0.66	2-Nitrotoluene	421363	0.100
14	26.87	-0.49	4-Nitrotoluene	378548	0.100
15	28.93	-0.80	3-Nitrotoluene	507047	0.100
0	0.00	0.00	PETN	0	0.000
			Totals	9706853	1.900

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

File: 07299601.d04 Sample: AUTOCAL3R



Lockheed Analytical Services

Data Reprocessed On 07/30/1996 11:08:30

Sample Name: AUTOCAL4R Date: 07/29/1996 15:10:17
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d05
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

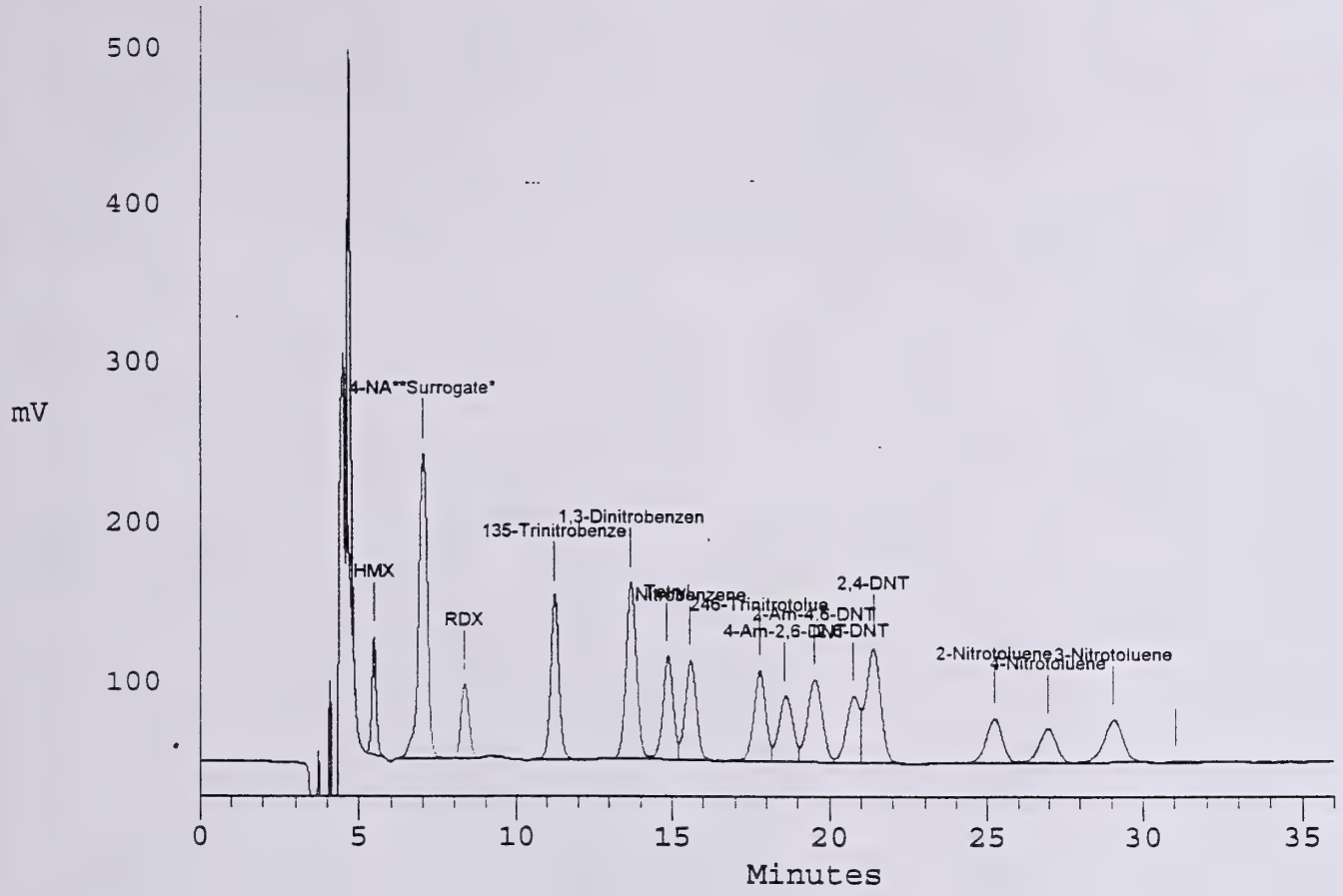
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.47	0.00	HMX	704019	0.250
3	7.00	0.00	4-NA**Surrogate*	3651797	1.260
4	8.30	0.00	RDX	863890	0.250
5	11.23	0.00	135-Trinitrobenze	1931894	0.250
6	13.70	0.00	1,3-Dinitrobenzen	2568029	0.250
7	14.87	0.00	Tetryl	1489458	0.250
8	15.60	0.21	Nitrobenzene	1547772	0.250
0	0.00	0.00	Nitroglycerin	0	0.000
9	17.80	0.19	246-Trinitrotolue	1498681	0.250
10	18.60	0.00	4-Am-2,6-DNT	1275737	0.250
1	19.53	0.00	2-Am-4,6-DNT	1712458	0.250
2	20.77	0.16	2,6-DNT	1206290	0.250
13	21.40	0.31	2,4-DNT	2272830	0.250
14	25.23	0.26	2-Nitrotoluene	991890	0.250
15	26.97	0.37	4-Nitrotoluene	818139	0.250
16	29.07	0.46	3-Nitrotoluene	1105773	0.250
0	0.00	0.00	PETN	0	0.000
			Totals	23638658	4.760

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.70			2095140	0.000
17	31.03			15746	0.000
			Totals	2110885	0.000

File: 07299601.d05 Sample: AUTOCAL4R



Lockheed Analytical Services

Data Reprocessed On 07/30/1996 11:08:32

Sample Name: AUTOCAL5R Date: 07/29/1996 15:48:27
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d06
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

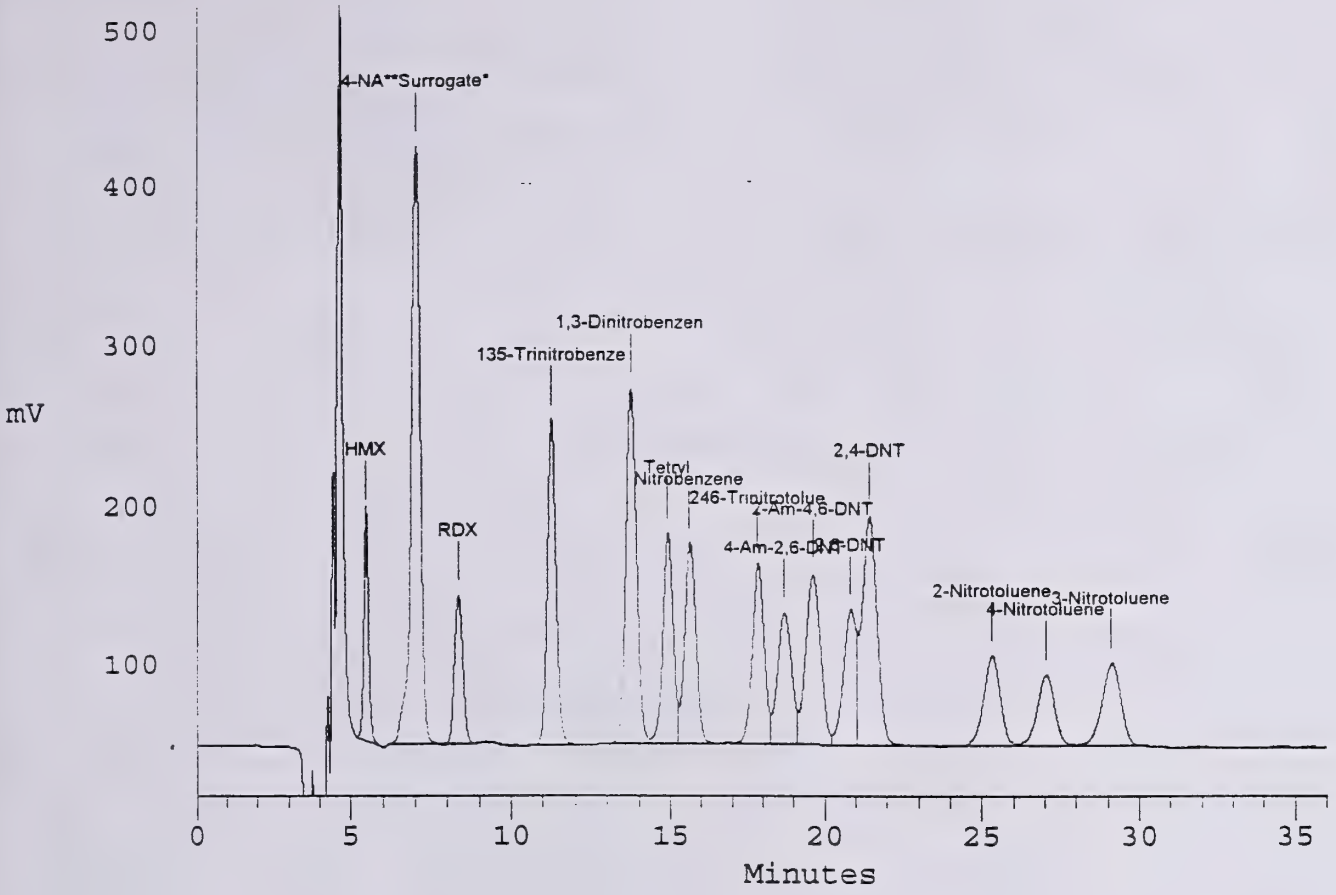
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.47	0.00	HMX	1449299	0.500
2	7.03	0.48	4-NA**Surrogate*	7324369	2.520
3	8.33	0.40	RDX	1730598	0.500
4	11.27	0.30	135-Trinitrobenze	3907214	0.500
5	13.77	0.49	1,3-Dinitrobenzen	5254941	0.500
6	14.93	0.45	Tetryl	3023630	0.500
7	15.63	0.21	Nitrobenzene	3204228	0.500
0	0.00	0.00	Nitroglycerin	0	0.000
8	17.87	0.37	246-Trinitrotolue	3047361	0.500
9	18.70	0.54	4-Am-2,6-DNT	2591352	0.500
0	19.63	0.51	2-Am-4,6-DNT	3547668	0.500
11	20.83	0.32	2,6-DNT	2417390	0.500
12	21.47	0.31	2,4-DNT	4616508	0.500
13	25.33	0.40	2-Nitrotoluene	2049349	0.500
14	27.03	0.25	4-Nitrotoluene	1710814	0.500
15	29.10	0.11	3-Nitrotoluene	2139060	0.500
0	0.00	0.00	PETN	0	0.000
			Totals	48013782	9.520

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

File: 07299601.d06 Sample: AUTOCAL5R



Lockheed Analytical Services

Data Reprocessed On 07/30/1996 11:08:35

Sample Name: AUTOCAL6R Date: 07/29/1996 16:26:37
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d07
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

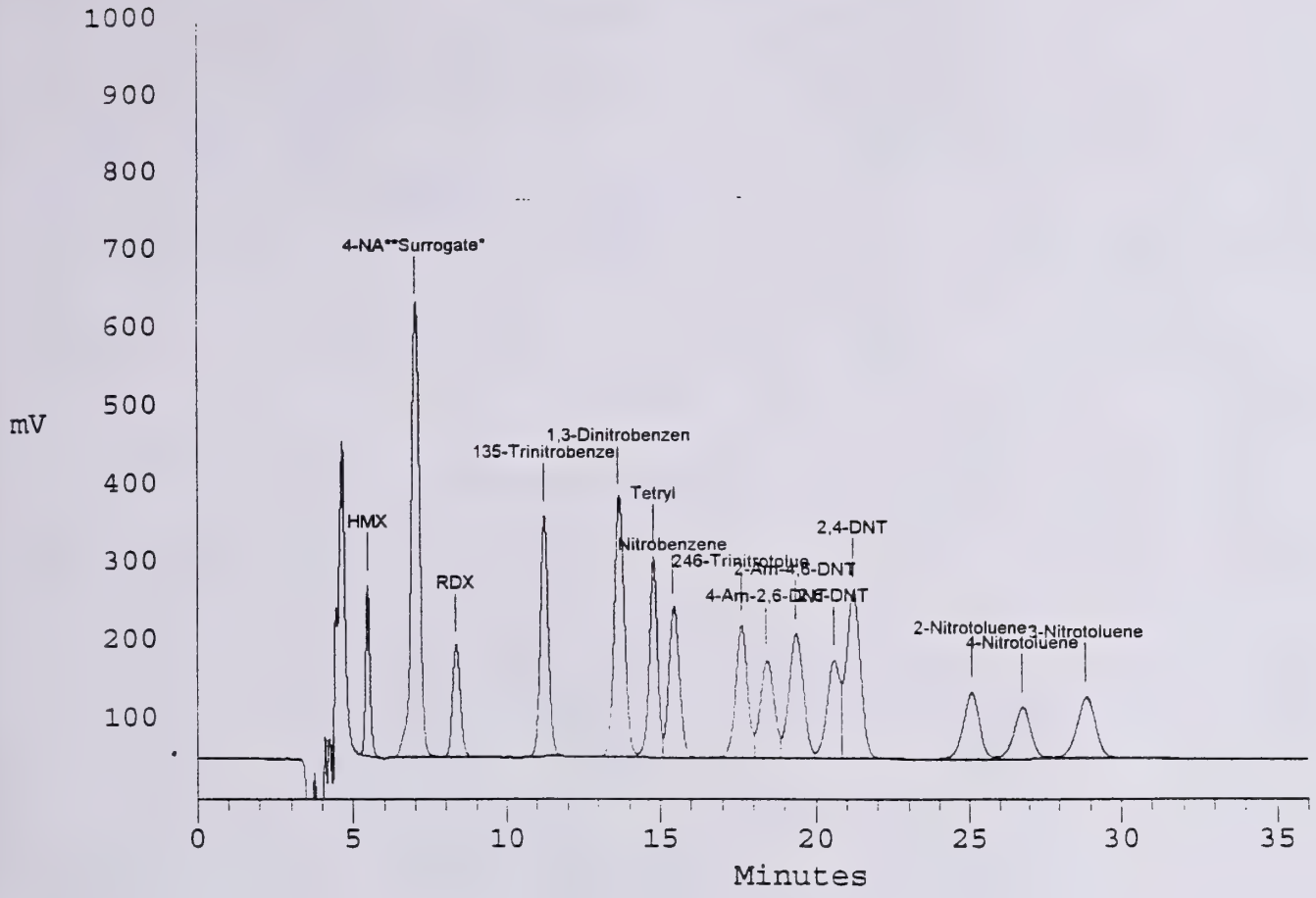
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.47	0.00	HMX	2085017	0.800
2	7.00	-0.47	4-NA**Surrogate*	10818129	4.020
3	8.30	-0.40	RDX	2573721	0.800
4	11.23	-0.30	135-Trinitrobenze	5613338	0.800
5	13.67	-0.73	1,3-Dinitrobenzen	7689510	0.800
6	14.80	-0.89	Tetryl	4737281	0.800
7	15.43	-1.28	Nitrobenzene	4528371	0.800
0	0.00	0.00	Nitroglycerin	0	0.000
8	17.63	-1.31	246-Trinitrotolue	4444739	0.800
9	18.43	-1.43	4-Am-2,6-DNT	3744886	0.800
0	19.37	-1.36	2-Am-4,6-DNT	5133703	0.800
11	20.60	-1.12	2,6-DNT	3614667	0.800
12	21.20	-1.24	2,4-DNT	6659695	0.800
13	25.07	-1.05	2-Nitrotoluene	3093116	0.800
14	26.77	-0.99	4-Nitrotoluene	2573568	0.800
15	28.87	-0.80	3-Nitrotoluene	3280231	0.800
0	0.00	0.00	PETN	0	0.000
			Totals	70589973	15.220

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

File: 07299601.d07 Sample: AUTOCAL6R



Lockheed Analytical Services

Data Reprocessed On 07/30/1996 11:26:59

7/30/96

Sample Name: CCV3 Date: 07/29/1996 20:53:35
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d14
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 14 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

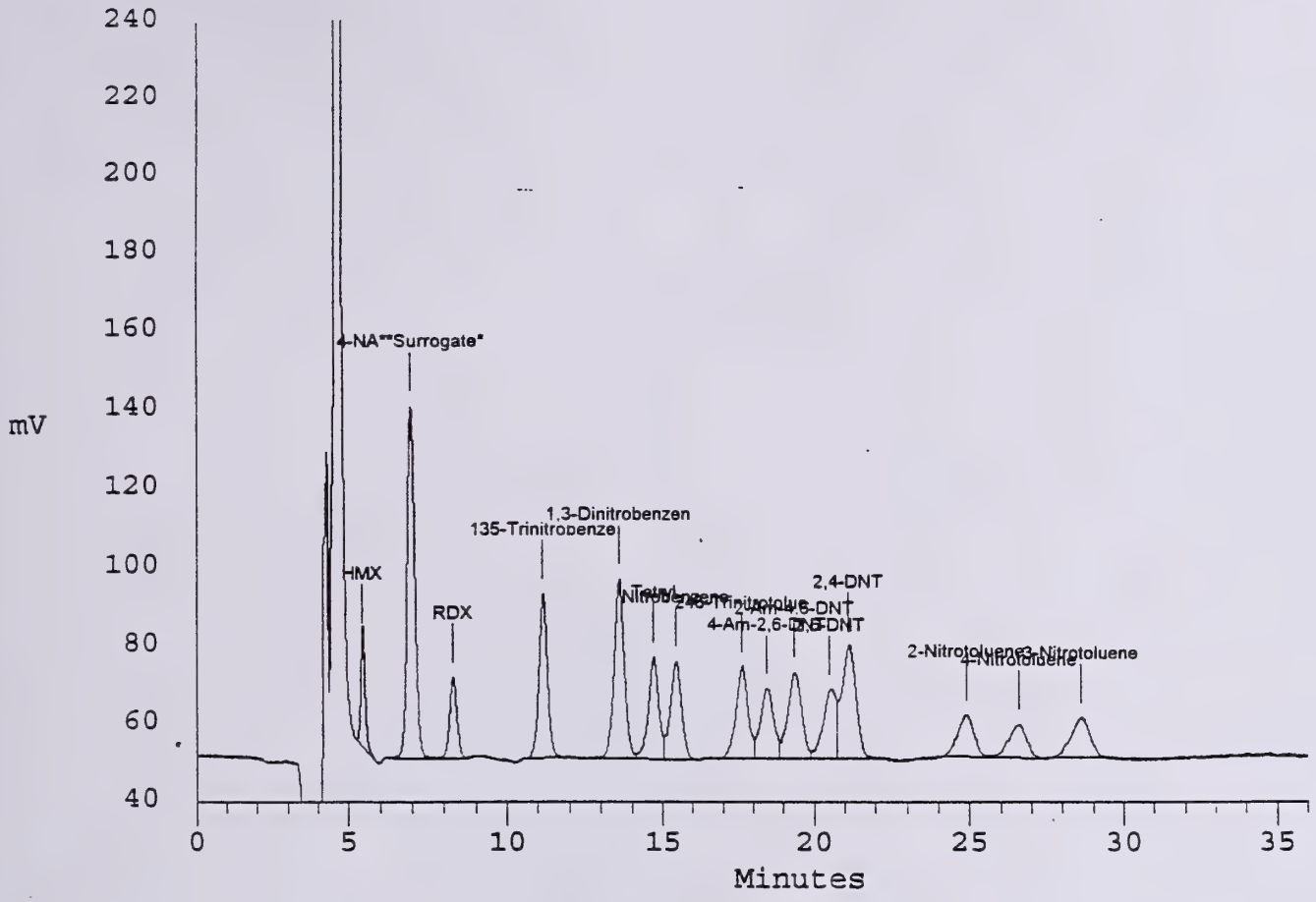
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.43	-0.61	HMX	286970	0.106
2	6.97	-0.48	4-NA**Surrogate*	1487418	0.538
3	8.27	-0.40	RDX	341583	0.104
4	11.17	-0.59	135-Trinitrobenze	796844	0.109
5	13.60	-0.49	1,3-Dinitrobenzen	1055448	0.106
6	14.73	-0.45	Tetryl	613008	0.103
7	15.47	0.22	Nitrobenzene	647436	0.109
0	0.00	0.00	Nitroglycerin	0	0.000
8	17.63	0.00	246-Trinitrotolue	649753	0.113
9	18.47	0.18	4-Am-2,6-DNT	540234	0.111
0	19.37	0.00	2-Am-4,6-DNT	698041	0.105
11	20.53	-0.32	2,6-DNT	519800	0.112
12	21.13	-0.31	2,4-DNT	901376	0.104
13	24.90	-0.66	2-Nitrotoluene	392282	0.100
14	26.60	-0.62	4-Nitrotoluene	331828	0.101
15	28.60	-0.92	3-Nitrotoluene	435003	0.104
0	0.00	0.00	PETN	0	0.000
			Totals	9697024	2.026

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

File: 07299601.d14 Sample: CCV3



QC DATA

NO HITS

Lockheed Analytical Services

DF 7/30/96

Data Reprocessed On 07/30/1996 11:26:44

Sample Name: 39376MB Date: 07/29/1996 17:42:53
Data File : E:\DX\DATA\HPLCB\8330\072996\07299601.d09
Method : e:\DX\METHOD\8330\072996.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

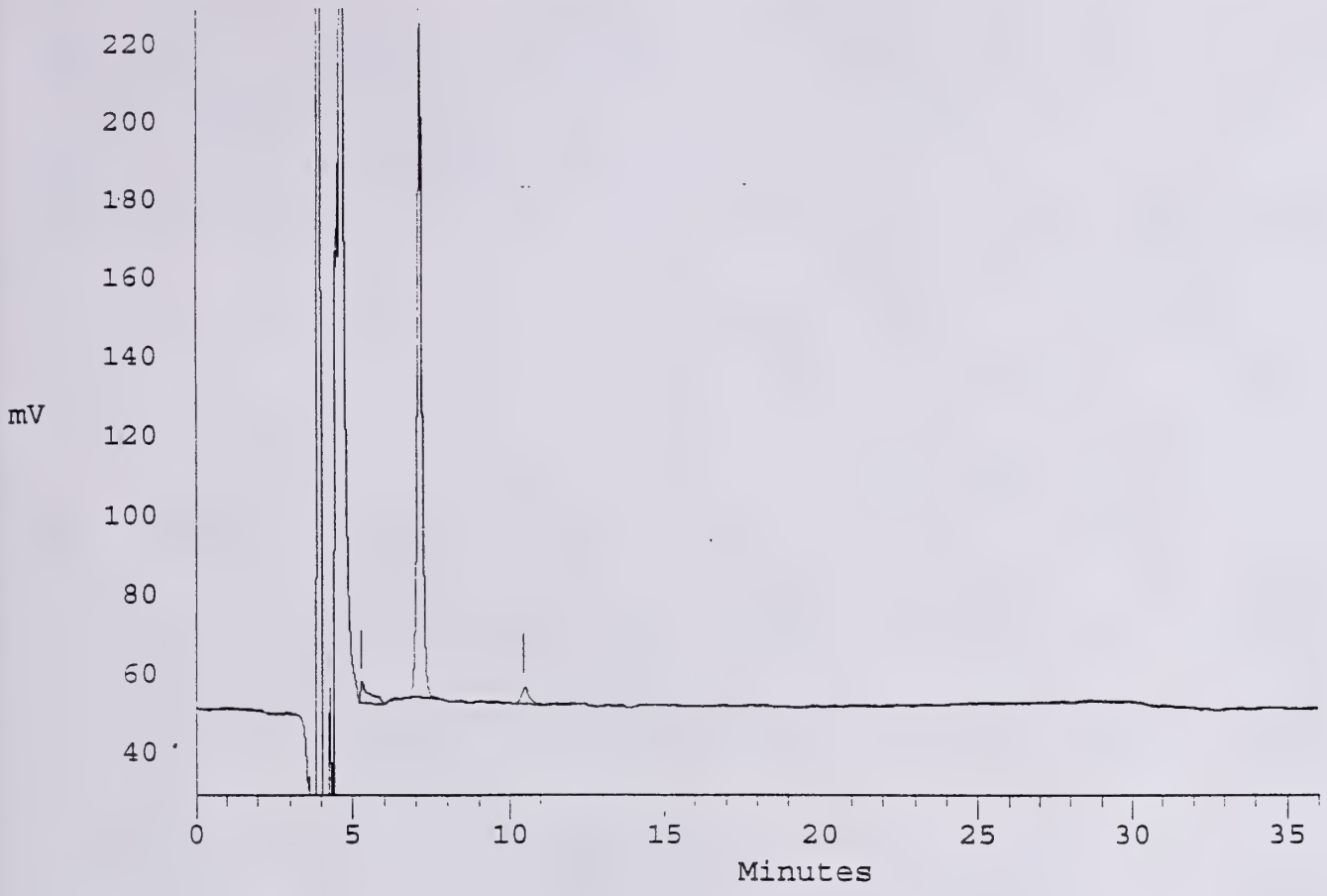
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
2	7.13	1.90	4-NA**Surrogate*	1754809	7.928
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
0	0.00	0.00	4-Am-2,6-DNT	0	0.000
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	1754809	7.928

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.27			116727	0.000
3	10.47			74336	0.000
			Totals	191063	0.000

File: 07299601.d09 Sample: 39376MB



(14)

Lockheed Analytical Services

DX 7/30/96

Data Reprocessed On 07/30/1996 11:26:47

```
Sample Name: 39376LCS                          Date: 07/29/1996 18:21:01
Data File  : E:\DX\DATA\HPLCB\8330\072996\07299601.d10
Method     : e:\DX\METHOD\8330\072996.MET
ACI Address: 1  System: 1  Inject#: 10                  Detector:UV/Vis
Analyst    : D. Percy       Column: ULTRACARB 5 ODS-20 250X4.6 86610
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

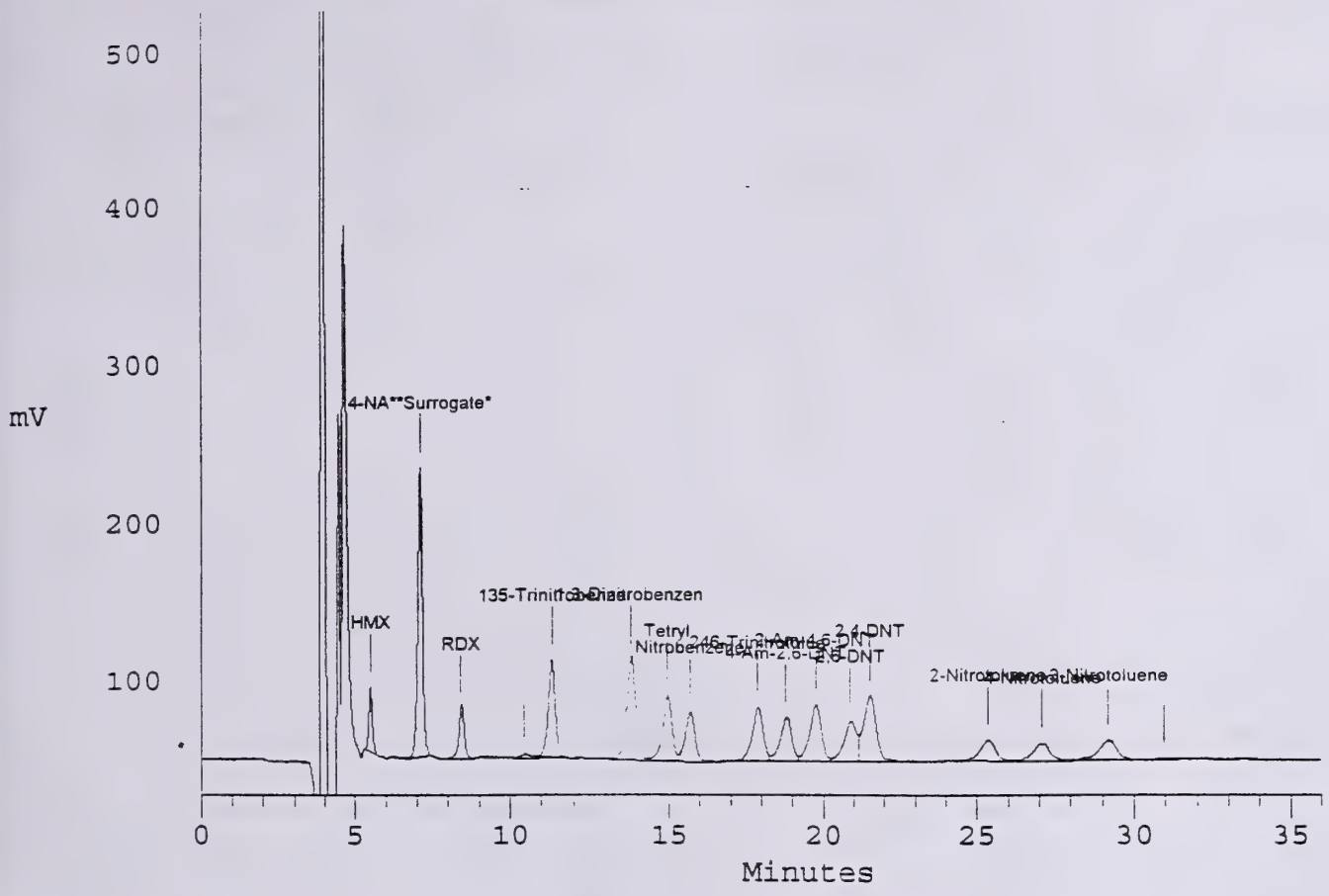
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.50	0.61	HMX	320301	1.481
2	7.10	1.43	4-NA**Surrogate*	1913525	8.645
3	8.40	1.20	RDX	429400	1.626
5	11.33	0.89	135-Trinitrobenze	964156	1.652
6	13.80	0.98	1,3-Dinitrobenzen	1251064	1.578
7	14.97	1.13	Tetryl	860874	1.806
8	15.70	1.73	Nitrobenzene	671907	1.420
0	0.00	0.00	Nitroglycerin	0	0.000
9	17.90	1.51	246-Trinitrotolue	834155	1.817
10	18.80	1.99	4-Am-2,6-DNT	717447	1.847
1	19.77	2.07	2-Am-4,6-DNT	952578	1.793
12	20.90	1.46	2,6-DNT	731284	1.974
13	21.53	1.57	2,4-DNT	1165347	1.686
14	25.37	1.20	2-Nitrotoluene	454565	1.443
15	27.10	1.25	4-Nitrotoluene	414721	1.579
16	29.20	1.15	3-Nitrotoluene	503424	1.505
0	0.00	0.00	PETN	0	0.000
			Totals	12184746	31.852

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
4	10.47			63848	0.000
17	30.97			25753	0.000
			Totals	89601	0.000

File: 07299601.d10 Sample: 39376LCS



(14)

Lockheed Analytical Services

Data Reprocessed On 07/30/1996 12:02:38

7/30/96

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Sample Name: 39376LCSDUP                          Date: 07/29/1996 18:59:11
Data File  : E:\DX\DATA\HPLCB\8330\072996\07299601.D11
Method     : e:\DX\METHOD\8330\072996.MET
ACI Address: 1  System: 1  Inject#: 11                    Detector:UV/Vis
Analyst    : D. Percy       Column: ULTRACARB 5 ODS-20 250X4.6 86610
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

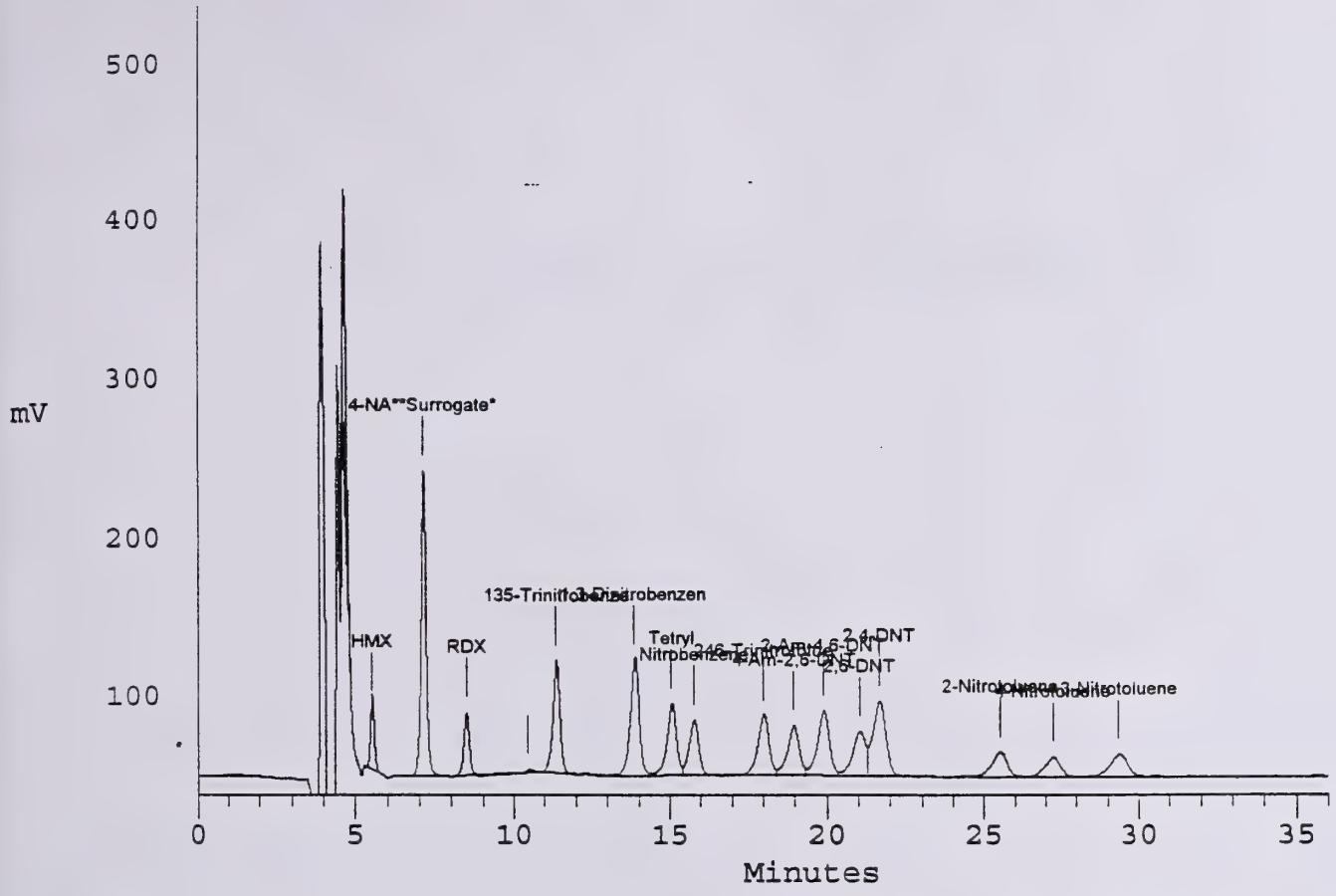
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.50	0.61	HMX	372550	1.723
3	7.13	1.90	4-NA**Surrogate*	2100568	9.490
4	8.47	2.01	RDX	481683	1.824
6	11.37	1.19	135-Trinitrobenze	1129472	1.935
7	13,87	1.46	1,3-Dinitrobenzen	1468135	1.851
8	15.07	1.80	Tetryl	971541	2.038
9	15.80	1.74	Nitrobenzene	743686	1.572
0	0.00	0.00	Nitroglycerin	0	0.000
10	18.00	2.08	246-Trinitrotolue	941326	2.051
11	18.97	2.89	4-Am-2,6-DNT	810684	2.087
?	19.90	2.75	2-Am-4,6-DNT	1081044	2.034
13	21.03	2.10	2,6-DNT	805872	2.175
14	21.67	2.20	2,4-DNT	1309686	1.895
15	25.53	1.86	2-Nitrotoluene	536698	1.703
16	27.23	1.74	4-Nitrotoluene	436281	1.661
17	29.37	1.73	3-Nitrotoluene	554486	1.657
0	0.00	0.00	PETN	0	0.000
			Totals	13743712	35.699

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.70			1224366	0.000
5	10.47			24056	0.000
			Totals	1248422	0.000

File: 07299601.D11 Sample: 39376LCSDUP



RUN LOGS/EXTRACTION SHEETS

Analyst	D Time	Sample Name	Description/ Solution	Matrix/ Dil.	Raw D	Method File	Reported	ReAnalyzed	Comments/ ALS N Only)
dfp	7/29	IB		1	HPLCB\8330\072996 01.d01	8330\072996.MET	no		inst. blk
dfp	7/29/9 5	AUTOCAL1R	0605-36-1	1	HPLCB\8330\072996\ 601.d02	8330\072996.MET	yes		
dfp	7/29/96 13:53	AUTOCAL2R	0605-36-2	1	HPLCB\8330\072996\07299601.d03	8330\072996.MET	yes		
dfp	7/29/96 14:32	AUTOCAL3R	0605-36-3	1	HPLCB\8330\072996\07299601.d04	8330\072996.MET	yes		
dfp	7/29/96 15:10	AUTOCAL4R	0605-36-4	1	HPLCB\8330\072996\07299601.d05	8330\072996.MET	yes		
dfp	7/29/96 15:48	AUTOCAL5R	0605-36-5	1	HPLCB\8330\072996\07299601.d06	8330\072996.MET	yes		
dfp	7/29/96 16:26	AUTOCAL6R	0605-36-6	1	HPLCB\8330\072996\07299601.d07	8330\072996.MET	yes		
dfp	7/29/96 17:04	IB		1	HPLCB\8330\072996\07299601.d08	8330\072996.MET	no		inst. blk
dfp	7/29/96 17:42	39376MB		12.5	HPLCB\8330\072996\07299601.d09	8330\072996.MET	yes		
dfp	7/29/96 18:21	39376LCS		12.5	HPLCB\8330\072996\07299601.d10	8330\072996.MET	yes		
dfp	7/29/96 18:59	39376LCSDUP		12.5	HPLCB\8330\072996\07299601.d11	8330\072996.MET	yes		
dfp	7/29/96 19:37	L7508-1		12.5	HPLCB\8330\072996\07299601.d12	8330\072996.MET	yes		
dfp	7/29/96 20:15	CCV3	0605-36-3	1	HPLCB\8330\072996\07299601.d13	8330\072996.MET	no		extra ccv
dfp	7/29/96 20:53	CCV3	0605-36-3	1	HPLCB\8330\072996\07299601.d14	8330\072996.MET	yes		

R12929

HT = 07/30
DUE 07/30

LOCKHEED ANALYTICAL SERVICES

TRACKING SHEET DATA REPORT (bs09)

EXTRACTION SHEET FOR: 8330 EXPLOSIVES Extraction

WORKSHEET NUMBER: 8330 EXPLOSIVES_39376

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED/ CREATED	VOL/WT EXTR 7/26/96	WATER SAMPLE pH	SURR ML	MS ML	BROUGHT TO FINAL VOLUME OF	AMT GIVEN TO ANALYST
L7508-1		9607361-01L	23-JUL-96	25-JUL-96	400 ml	7	5		5.0 ml	≈ 4 ml
39376MB	MB	Method Blank		26-JUL-96	400 ml	7	↓		↓	↓
39376LCS	LCS	Lab Ctrl Sample		26-JUL-96	400 ml	7		8		
39376LCSDUP	LCSD	Lab Ctrl Sample Dup		26-JUL-96	400 µl	7	↓	8	↓	↓
~~SPIKELOT39376~~	~~SPIKELOT~~	~~Spike Lot Sample~~		~~26-JUL-96~~						UB 07-26-96

DATE STARTED: 7/26/96 DATE COMPLETED: 7/26/96 SIGNED: [signature]

QC BATCH# : 8330 EXPLOSIVES_39376 LOT #'S SPIKE WITNESS: [signature]

SURR ID # : 0859-8-3 CONC: 1.0 mg/ml MECL2 : N/A NA2SO4: N/A

MS ID # : 0859-27-1 CONC: 100 µg/ml ACETONE: N/A ACN: BM507

NaCl: 141620

REVIEWED BY: [signature] 7-29-96

NARRATIVE EXTRACT COC: RECIEVED BY: GF 8:55 DATE: 7-29-96

Sample L7508-1 contained a high degree of emulsion. The sample was centrifuged and the top portion was used for bloridcrem. EA 7/26/96

000046

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 961577
Prepared For:

COMMONWEALTH ANALYTICAL
CHRIS REYNOLDS
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085-5308

Date: 07/31/96

Signature

7-31-96
Date:

Name: Rondalynn Mull

Core Laboratories, Inc.
420 West First Street
Casper, WY 82601

Title: Laboratory Supervisor

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FINAL REPORT DISTRIBUTION
07/31/96

JOB NUMBER: 961577

COMPANY NAME	COMPANY MAILING ADDRESS	COMPANY CITY	STATE	COMPANY ZIP CODE
COMMONWEALTH ANALYTICAL CHRIS REYNOLDS	53 SOUTHAMPTON ROAD	WESTFIELD	MA	01085-5308

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/31/96

JOB NUMBER: 961577 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

SAMPLE NUMBER: 1 DATE RECEIVED: 07/25/96 TIME RECEIVED: 09:45 SAMPLE DATE: 07/23/96 SAMPLE TIME: :
PROJECT: P.O. NO.: 9607 177 SAMPLE: 9607361-01J REM: WATER

SAMPLE NUMBER: 2 DATE RECEIVED: 07/25/96 TIME RECEIVED: 09:45 SAMPLE DATE: 07/23/96 SAMPLE TIME: :
PROJECT: P.O. NO.: 9607 177 SAMPLE: 9607361-01K REM: WATER

SAMPLE NUMBER: 3 DATE RECEIVED: 07/25/96 TIME RECEIVED: 09:45 SAMPLE DATE: 07/23/96 SAMPLE TIME: :
PROJECT: P.O. NO.: 9607 177 SAMPLE: 9607363-01K REM: WATER

SAMPLE NUMBER: 4

TEST DESCRIPTION	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4			UNITS OF MEASURE
Gross Alpha, total	214		3.2				pCi/l
Gross Alpha, total, error, +/-	41.1		1.5				pCi/l
Gross Alpha, total, LLD	30.1		1.7				pCi/l
Gross Beta, total	231		5.3				pCi/l
Gross Beta, total, error, +/-	20.3		2.2				pCi/l
Gross Beta, total, LLD	18.6		3.2				pCi/l
Radium 226, total	7.8		0.1				pCi/l
Radium 226, total, error, +/-	0.6		0.2				pCi/l
Radium 226, total, LLD	0.5		0.5				pCi/l
Radium 228, total	2.3		0.2				pCi/l
Radium 228, total, error, +/-	0.7		0.5				pCi/l
Radium 228, total, LLD	1.2		1.2				pCi/l

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LABORATORY TESTS RESULTS
07/31/96

JOB NUMBER: 961577 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

SAMPLE NUMBER: 1 DATE RECEIVED: 07/25/96 TIME RECEIVED: 09:45 SAMPLE DATE: 07/23/96 SAMPLE TIME: :

PROJECT: P.O. NO.: 9607 177 SAMPLE: 9607361-01J REM: WATER

SAMPLE NUMBER: 2 DATE RECEIVED: 07/25/96 TIME RECEIVED: 09:45 SAMPLE DATE: 07/23/96 SAMPLE TIME: :

PROJECT: P.O. NO.: 9607 177 SAMPLE: 9607361-01K REM: WATER

SAMPLE NUMBER: 3 DATE RECEIVED: 07/25/96 TIME RECEIVED: 09:45 SAMPLE DATE: 07/23/96 SAMPLE TIME: :

PROJECT: P.O. NO.: 9607 177 SAMPLE: 9607363-01K REM: WATER

SAMPLE NUMBER: 4

TEST DESCRIPTION	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4			UNITS OF MEASURE
Tritium, total		49.5					pCi/l
Tritium, total, error, +/-		90.9					pCi/l
Tritium, total, LLD		150					pCi/l
Cesium-137, gamma by HPGe	<4.4						pCi/l

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QUALITY CONTROL REPORT
07/31/96

JOB NUMBER: 961577 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Cesium-137, gamma by HPGe				DATE/TIME ANALYZED:07/30/96 19:06						QC BATCH NUMBER:181517
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :						TECHNICIAN:JG
STANDARD	GMX-CS137	LCS10729	84100			84800	99			
DUPLICATE	MD	961577-2	<8.1	<7.0	0					
PARAMETER:Radium 226, total				DATE/TIME ANALYZED:07/30/96 17:33						QC BATCH NUMBER:181518
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 903.1						TECHNICIAN:NRF
BLANK	MB	MB2R60726	ND							
STANDARD	LCS	LC1R60726	13.8			15.0	92			
SPIKE	MS	961570-1	33.2					1.2	30.0	107
DUPLICATE	MD	961571-1	0.5	0.5	0					
PARAMETER:Radium 228, total				DATE/TIME ANALYZED:07/30/96 15:31						QC BATCH NUMBER:181521
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 904.0						TECHNICIAN:NRF
	MB	MB2R80726	1.3							
	LCS	LC1R80726	15.9			14.4	110			
	MS	961577-3	14.7					0.2	14.4	101
DUPLICATE	MD	961571-1	2.6	0.3	159					
PARAMETER:Tritium, total				DATE/TIME ANALYZED:07/29/96 18:01						QC BATCH NUMBER:181524
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 906.0						TECHNICIAN:NRF
BLANK	MB	MB1H30729	0.5							
STANDARD	LCS	ST1H30729	19.6			22.9	86			
SPIKE	MS	961565-2	2090					131	2290	86
DUPLICATE	MD	961572-1	31.5	40.5	25					
DUPLICATE	MD	961577-2	49.5	40.5	20					
PARAMETER:Gross Alpha, total				DATE/TIME ANALYZED:07/31/96 16:50						QC BATCH NUMBER:181582
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 900.0						TECHNICIAN:JG
BLANK	MB	MB2AB0729	0.2							
STANDARD	LCS	LCS1A0729	25.4			25.5	100			
SPIKE	MS	961577-3	122					3.2	128	93
DUPLICATE	MD	961577-3	3.2	2.9	10					
PARAMETER:Gross Beta, total				DATE/TIME ANALYZED:07/31/96 16:59						QC BATCH NUMBER:181587
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 900.0						TECHNICIAN:JG
BLANK	MB	MB2AB0729	ND							
STANDARD	LCS	LCS1B0729	26.3			21.5	122			
SPIKE	MS	961577-3	99.8					5.3	108	88
DUPLICATE	MD	961577-3	5.3	6.6	22					

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QUALITY CONTROL FOOTER

METHOD REFERENCES

(1) EPA 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, March 1983
(2) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, November 1990 and July 1992 update
(3) Standard Methods for the Examination of Water and Wastewater, 17th, 1989
(4) EPA 600/4-80-032, Prescribed Procedures for Measurement of Radioactivity in Drinking Water, August 1980
(5) Federal Register, Friday, October 26, 1984 (40 CFR Part 136)
(6) EPA 600/8-78-017, Microbiological Methods for Monitoring the Environment, December 1978

COMMENTS

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(2) The "Time Analyzed" in the QC Report may not reflect the actual time of each analysis. The "Date Analyzed" is the actual date of analysis.
(3) Soil and sludge samples are reported on a wet basis or on an "as received" basis unless otherwise indicated.
(4) The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.
(5) Analyses performed by a subcontract laboratory are indicated with an asterisk and associated code in the "Technician" data field.

Subcontract Laboratories	Code
Core Laboratories - Anaheim, CA	* AN
Core Laboratories - Aurora, CO	* AU
Core Laboratories - Casper, WY	* CA
Core Laboratories - Corpus Christi, TX	* CC
Core Laboratories - Houston, TX	* HP
Core Laboratories - Lake Charles, LA	* LC
Core Laboratories - Long Beach, CA	* LB
Other Subcontract Laboratories	* XX

DEFINITIONS

(1) NC = Not Calculable due to values lower than the reporting limit.
(2) ND = Not Detected above the reporting limit.

QC SAMPLE IDENTIFICATIONS

BLANKS

MB - Method Blank (also referred to as a preparation blank)
RB - Reagent Blank
IB Instrument Blank
ICB Initial Calibration Blank
CCB Continuing Calibration Blank
HB Holding Blank (also referred to as a storage blank)

DUPLICATES

MSD - Matrix Spike Duplicate
MD = Method Duplicate

SPIKES

MS = Matrix Spike
MSD = Matrix Spike Duplicate
PDS = Post Digestion Spike
BS = Blank Spike (also referred to as a method spike)
SS = Surrogate Spike

REFERENCE STANDARDS

CS = Calibration Standard
RS = Reference Standard (also referred to as an external reference standard)
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LCS = Laboratory Control Sample

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CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 961576
Prepared For:

COMMONWEALTH ANALYTICAL
CHRIS REYNOLDS
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085-5308

Date: 07/30/96

Rondalynn Mull
Signature

7-30-96
Date:

Name: Rondalynn Mull

Core Laboratories, Inc.
420 West First Street
Casper, WY 82601

Title: Laboratory Supervisor

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FINAL REPORT DISTRIBUTION
07/30/96

JOB NUMBER: 961576

COMPANY NAME	COMPANY MAILING ADDRESS	COMPANY CITY	STATE	COMPANY ZIP CODE
COMMONWEALTH ANALYTICAL CHRIS REYNOLDS	53 SOUTHAMPTON ROAD	WESTFIELD	MA	01085-5308

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LABORATORY TESTS RESULTS
07/30/96

JOB NUMBER: 961576 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 96-07 176
DATE SAMPLED.....: 07/23/96
TIME SAMPLED.....: :
WORK DESCRIPTION...: 9607361-01I

LABORATORY I.D...: 961576-0001
DATE RECEIVED....: 07/25/96
TIME RECEIVED....: 09:45
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Radon 222	646		pCi/l		07/26/96	NRF
Radon 222 error, +/-	132		pCi/l		07/26/96	NRF
Radon 222 LLD	197		pCi/l		07/26/96	NRF

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QUALITY CONTROL REPORT
07/30/96

JOB NUMBER: 961576 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Radon 222				DATE/TIME ANALYZED:07/26/96 06:29						QC BATCH NUMBER:181428
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :						TECHNICIAN:NRF
BLANK	MB	MB1RN0726	0.4							
STANDARD	LCS	ST1RN0726	16.3			23.6	69			
DUPLICATE	MD	961576-1	646	662	2					
DUPLICATE	MDD	961576-1	646	737	13					

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Subcontract Laboratories	Code
Core Laboratories - Anaheim. CA	* AN
Core Laboratories - Aurora. CO	* AU
Core Laboratories - Casper. WY	* CA
Core Laboratories - Corpus Christi. TX	* CC
Core Laboratories - Houston. TX	* HP
Core Laboratories - Lake Charles. LA	* LC
Core Laboratories - Long Beach. CA	* LB
Other Subcontract Laboratories	* XX

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Site 1
MW-3
Sieve Analysis

Commonwealth [illegible]

EASTCOAST THOMAS
BLDG 1146, SOUTH OUTER ROAD
OTIS AFB 02542

Attention: D.J. QUAGLIARDI

Work ID: SIEVE ANALYSIS
Project # 400096_4_50

Workorder # 9607269

Authorized Signature

Stephen L. Knollmeyer 7/30/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

Drinking Water • Wastewater • Hazardous Waste • Toxicity Testing • Mobile Laboratory

Westfield Executive Park • 53 Southampton Road • Westfield, MA 01085-5308 • Tel 413·572·3200 • Fax 413·572·3215

12020 Sunrise Valley Drive • Suite 100 • Reston, VA 22091-3429 • Tel 703·391·2770 • Fax 703·391·2766

A division of Tighe & Bond Inc

Commonwealth Analytical

Workorder #9607269

Laboratory Results Prepared For :

EASTCOAST THOMAS
BLDG 1146, SOUTH OUTER ROAD
OTIS AFB 02542

Attention : D.J. QUAGLIARDI

Company : EASTCOAST THOMAS
OTIS AFB
Facility :
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : SIEVE ANALYSIS
Taken : 07/15/96
Transported : TDK-CA
Type : SOLID
PO # :

7/29/96 CFR
Certified by

SIEVE ANALYSES

Sample ID:**1-MW-3-110'**
Date Analyzed:**07/25/96**
Analyst:**PDF**

Sieve size	#4	#6	#8	#10	#12	#16	#20	#30	#40	#50	#60	#70	#100	#140
% Passing	99.8	99.6	99.4	99.1	98.2	96.1	90.1	81.1	67	47.8	37.9	31.1	19.1	12.3

Sample ID: **1-MW-3-120'**
Date Analyzed:**7/25/96**
Analyst:**PDF**

Sieve size	#4	#6	#8	#10	#12	#16	#20	#30	#40	#50	#60	#70	#100	#140
% Passing	100	100	99.8	99.7	99.6	98.8	96.0	88.6	74.3	55.1	46.6	39.8	26.4	18.0

Sample ID: **1-MW-3-130'**
Date Analyzed:**07/25/96**
Analyst: **PDF**

Sieve size	#4	#6	#8	#10	#12	#16	#20	#30	#40	#50	#60	#70	#100	#140
% Passing	99.6	99.5	99.3	99.1	98.8	97.1	91.4	79.4	62.4	43.2	34.7	28.8	18.6	13.3

Sample ID: **1-MW-3-140'**
Date Analyzed:**07/25/96**
Analyst: **PDF**

Sieve size	#4	#6	#8	#10	#12	#16	#20	#30	#40	#50	#60	#70	#100	#140
% Passing	99.9	99.6	99.3	98.9	98.6	96.7	90.2	89.1	80.2	63.1	62.5	55.2	39.9	29.5

SIEVE A. .LYSES

Sample ID: **1-MW-3-150'**
Date Analyzed: **07/25/96**
Analyst: **PDF**

Sieve size	#4	#6	#8	#10	#12	#16	#20	#30	#40	#50	#60	#70	#100	#140
% Passing	99.8	99.6	99.5	99.2	99.1	98.0	94.3	85.4	70.1	52.6	42.9	36.2	23.9	15.0

qc\narr\sw\9606269

Test Methodologies

Test: SIEVE ANALYSIS
Analysis performed in accordance with Method C136 from 1980 Annual ASTM Standards, ASTM, Philadelphia, PA.

Chain of Custody Form

53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: FA. COAST THOMAS Job#/Proj. Manager: DJ QC. LEARY

Address: BLD 1146B SOUTHER RD Work ID:

DIS AND B, MA Contact: DJ

Phone: 508/563-7025 Collected by: COLLINS

Workorder # 9607969

COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☑ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)

1. Grain Size (save pans as 3-MW-3 samples)

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other NONE	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
01A	1-MW-3-110'	S	7.15.96	✓		1	P						✓													—
02A	1-MW-3-120'	↓	↓	↓	↓	↓	↓						↓													—
03A	1-MW-3-130'																									—
04A	1-MW-3-140'																									—
05A	1-MW-3-150'																									—

ice pk's in cooler

Relinquished by:	Date: 7.17.96	Time: 1200	Received by:	Date: 7-17-96	Time: 1200
Relinquished by:	Date: 7-18-96	Time: 1100	Received by:	Date: 7-18-96	Time: 11:00
Relinquished by: KH	Date:	Time:	Received by: TDK 7-17-96	Date: 7-18-96	Time:

Cooler #: 24/11

Temp. @ receipt: —

Preservation pH checked

By: — Date: —

Method of shipment: Via C/A

Laboratory: C/A

f:\data\excel\COCS-U.XLS rev.5/94

CommonwealthAnalytical

Site 1
test well sampling day 1
9/6/96

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: 0510502
Project # 400096_4_50

Workorder # 9609083

Authorized Signature

Stephen L. Knollmeyer 10/3/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

Drinking Water • Wastewater • Hazardous Waste • Toxicity Testing • Mobile Laboratory

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12020 Sunrise Valley Drive • Suite 100 • Reston, VA 22091-3429 • Tel 703·391·2770 • Fax 703·391·2766

A division of Tighe & Bond, Inc.

Commonwealth Analytical

Workorder #9609083

Laboratory Results Prepared For :

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER

Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : 0510502
Taken : 09/06/96
Transported : TDK-CA
Type : GROUNDWATER
PO # : PS-027131

9/27/96 GLB

Certified by

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ 2. City/Town: Bourne

PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

3. DEP Source Code/Location ID | 6. Sample Location | 7. Date Collected | 8. Collected by

INA | 01-TEST-906-F | 9/6/96 | Ruse

Is the Source Treated? No 10. Was the Sample Collected after Treatment? No

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) N Lab Sample ID#: 9609083

(use symbols to relate each analyte to a specific lab)

Sub. Name: Cert.#: Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	---	NR	0.05	0.005	200.7	---	
Barium	---	NR	2.0	0.02	200.7	---	
Cadmium	---	NR	0.005	0.002	200.7	---	
Chromium	---	NR	0.1	0.005	200.7	---	
Fluoride*	---	NR	4.0	0.1	SM 4500-F-B	---	
Mercury	---	NR	0.002	0.0002	SM 3112B	---	
Selenium	---	NR	0.05	0.002	SM 3113B	---	
Sodium	9609083	6.5	none	1.0	200.7	09/20/96	
Antimony	---	NR	0.006	0.003	SM 3113B	---	
Beryllium	---	NR	0.004	0.0003	SM 3113B	---	
Nickel	---	NR	0.1	0.001	SM 3113B	---	
Thallium	---	NR	0.002	0.001	200.9	---	
Cyanide	---	NR	0.2	0.01	SM 4500-CN-C	---	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609083	<5	---	5	SM 4500-S04-E	09/09/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Kovalcheck 10/3/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

cepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY N

NITRATE REPORT
(FORM #1B.1)

. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-906-F	9/6/96	Ruse
B:			
C:			
D:			

9. Is the Source Treated? No 10. Is the Sample Chlorinated? No
11. Was the Sample Collected after Treatment? No
12. Manifolded: [ ] If applicable, list the connected sources:

13. Routine [] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	0.044			
MCL (mg/L)	10.0			
Detection Limit (mg/L)	0.02			
Analytical Method	SM 4500-NO3-F			
Date Analyzed*	09/06/96			
Lab Sample ID#	9609083-01			

* Holding time for chlorinated samples is 48 hours. Holding time for non-chlorinated samples is 14 days.

Laboratory Director Signature and Date Steph Kyselka 10/3/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

ted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY NI

NITRITE REPORT
(FORM #1C.1)

I. PWS INFORMATION:

1. PWS ID# INA 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-906-F	9/6/96	Ruse
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	<0.01			
MCL (mg/L)	1.0	1.0	1.0	1.0
Detection Limit (mg/L)	0.01			
Analytical Method	SM 4500-NO3-F			
Date Analyzed*	09/06/96			
Lab Sample ID#	9609083-01			

Laboratory Director Signature and Date Stephen Knollmeyer 10/3/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP;** within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	01-TEST-906-F	9/6/96	Ruse
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: The well was chlorinated and flushed prior to sampling.

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: Cert#: Lab Symbol:
Notes:

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Lab Sample ID	---------	--------	-------	9609083				----
Turbidity (NTU)	180.1	0.05	09/06/96	0.36				
TDS	160.1	5	09/13/96	39				
Color (color units)	SM2120B	5	09/06/96	<5				----
Odor (TON)	140.1	1	09/06/96	1				----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	09/17/96	5				
Hardness (CaCO3)	130.2	2	09/09/96	7.6				----
Calcium (Ca)	200.7	0.2	09/26/96	1.6				
Magnesium (Mg)	200.7	1	09/25/96	1.1				----
Aluminum (Al)	200.7	0.05	09/25/96	<0.05				----
Potassium (K)	258.1	0.05	09/19/96	0.77				----
Iron (Fe)	200.7	0.05	09/25/96	<0.05				----
ganese (Mn)	200.7	0.01	09/25/96	<0.01				----
lfate (SO4)	SM 4500-SO4-E	2	09/09/96	<5				

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	09/18/96	9.5				----
Silver (Ag)	272.1	0.01	-	NR				
Copper (Cu)	220.1	0.01	09/26/96	<0.01				
Zinc (Zn)	200.7	0.05	-	NR				----

Laboratory Director Signature and Date Stephen Kyrollos 10/3/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
ents:		

Inorganic Results for 01-TEST-906-F

Matrix:GROUNDWATER — Collected on 09/06/96 14:15:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	5	mg/L	09/17/96	RNE
01D	AMMONIA NITROGEN as N	0.045	N, mg/L	09/11/96	SLS
01B	CHLORIDE	9.5	mg/L	09/18/96	TV
01B	COLOR-APPARENT	<5	apparent color	09/06/96	DF
01D	HARDNESS	7.6	mg/L	09/09/96	TV
01C	NITRATE as NITROGEN	0.044	N, mg/L	09/06/96	SLS
01C	NITRITE, as NITROGEN	<0.01	N, mg/L	09/06/96	SLS
01B	ODOR	1	TON	09/06/96	DF
01B	SPECIFIC CONDUCTANCE	57	umhos/cm @25	09/19/96	RNE
01A	SULFATE	<5	mg/L	09/09/96	SLS
01B	TOTAL DISSOLVED SOLIDS	39	mg/L	09/13/96	DF
01B	TURBIDITY	0.36	NTU	09/06/96	DF

Metal Results for 01-TEST-906-F

Matrix:GROUNDWATER — Collected on 09/06/96 14:15:00

	Analyte	Result	Units	Test Date	Analyst
01E	ALUMINUM by ICP	<0.05	mg/L	09/25/96	JLZ
01E	CALCIUM by ICP	1.6	mg/L	09/26/96	BG
01E	COPPER by ICP	<0.01	mg/L	09/26/96	BG
01E	IRON by ICP	<0.05	mg/L	09/25/96	JLZ
01E	MAGNESIUM by ICP	1.1	mg/L	09/25/96	JLZ
01E	MANGANESE by ICP	<0.01	mg/L	09/25/96	JLZ
01E	POTASSIUM by ICP	0.77	mg/L	09/19/96	JLZ
01E	SODIUM by ICP	6.5	mg/L	09/20/96	JLZ

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: NITRATE as NITROGEN
Method 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition, 1996.

Test: NITRITE, as NITROGEN
Method SM 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition 1992.

Test: ODOR
Method 140.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test Methodologies

Test: POTASSIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method SM 4500-S04-E, Standard Methods for the Examination of Water & Wastewater, 18th Edition 1992.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, 1983 Revision.

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA
(413)572-3200 fax(413)572-

Client: Stone + Webster
Address: 245 Summer St. Boston, MA 02210
Phone: 617-589-1277

Job#/Proj. Manager: C Collins
Work ID: 0510502
Contact: C Collins
Collected by: K. Rose

Workorder # 9609085
COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑
48 hr. ☐ 2 wk. ☐ Specify: 30d

Special Detection Limits? (✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)
1. SO_4 (Reg Chem)
2. Metals (Reg Chem) (Ca, Mg, Na, K, Fe, Mn, Cu, Al)
3. Reg Chem – Turb, TDS, Cond, Color, Odor, Alk, Cl
4. Reg Chem – NO_2 NO_3
5. Reg Chem – NH_4, Hardness

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other ____	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
OIA	01·TEST·906·F	GW	9/06/96 9/14/13	✓		1	P							✓	5											1
OIE	↓	↓	↓	↓	↓	↓	↓		✓					✓	1				2							
OIB														✓	5											3
OIC														✓	5											4
OID						↓	↓		·	✓					1											5

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Karen J. Rose	9/06/96	1500	[illegible]	9-6-96	1500
[illegible]	9-9-96	0800	Ken Hamm	9-9-96	8:00
	RH Date:	Time:		9-9-96 Date:	Time:

Method of shipment: UPS C/A

Laboratory: C/A

Cooler #: Simplex Boston V
Temp. @ receipt: —
Preservation pH checked
By: KA Date: 9-9-96

Cooler Temp 3.0°C

COOLER RECEIPT FORM

Contractor Cooler: yes
MRD Cooler #: ____
Number of Coolers: 1

Workorder # 9609083

Project Name: Stone + Webster

Date Received: 9-6-96

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 9-6-96

by (print) Tim Knollmeyer (sign) T Knollmeyer

1. Did cooler come with a shipping slip (air bill, etc.)? ..... YES (NO)
   If yes, enter carrier name & air bill number here: ____
2. Were custody seals on outside of cooler? ..... YES (NO)
   How many & where: ____ seal date: ____ seal name: ____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES (NO)
4. Did you screen samples for radioactivity using the Geiger Counter? ..... YES (NO)
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
9. If required, was enough ice used? ..... Type of ice Cube ..... (YES) NO
10. Have designated person initial here to acknowlege receipt of cooler: TJK (date) 9-6-96

B. LOG-IN PHASE: Date samples were logged-in: 9-9-96

by(print) Kia Hawkins (sign) Kia Hawkins

11. Describe type of packing in cooler: —
12. Were all bottles sealed in separate plastic bags? ..... (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO
15. Did all bottle labels agree with custody papers? ..... (YES) NO
16. Were correct containers used for the tests indicated? ..... (YES) NO
17. Were correct preservatives added to samples? ..... (YES) NO
18. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#: ____ YES NO N/A
20. Was the project manager called and status discussed? ..... YES (NO)
    If YES, give details on the back of this form.
21. Who was called? ____ By whom? ____ (date) ____

J:\QC\DOC\COOL

QUALITY ASSESSMENT REPORT
FOR
LABORATORY ANALYSES

CLIENT NAME: Stone & Webster

WORK ORDER #: 9609083

CommonwealthAnalytical

BLANK RESULTS SUMMARY

WORK ORDER NO. 9609083

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	ALUMINUM	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	CALCIUM	09/17/96	09/26/96	WATER	NONE DETECTED	
LB	COPPER	09/17/96	09/26/96	WATER	NONE DETECTED	
LB	IRON	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	MAGNESIUM	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	MANGANESE	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	POTASSIUM	09/17/96	09/19/96	WATER	NONE DETECTED	
LB	SODIUM	09/17/96	09/20/96	WATER	NONE DETECTED	
LB	AMMONIA	NONE	09/11/96	WATER	NONE DETECTED	
LB	CHLORIDE	NONE	09/18/96	WATER	NONE DETECTED	
LB	NITRATE	NONE	09/06/96	WATER	NONE DETECTED	
LB	NITRITE	NONE	09/06/96	WATER	NONE DETECTED	

BLANK RESULTS SUMMARY

WORK ORDER NO. 9609083

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	SULFATE	NONE	09/09/96	WATER	NONE DETECTED	
LB	TOTAL DISSOLVED SOLIDS	NONE	09/13/96	WATER	NONE DETECTED	
LB	TURBIDITY	NONE	09/06/96	WATER	NONE DETECTED	
LB	HARDNESS	NONE	09/09/96	WATER	NONE DETECTED	
LB	SPECIFIC CONDUCTANCE	NONE	09/19/96	WATER	NONE DETECTED	

MATRIX SPIKE /MATRIX SPIKE DUPLICATE RESULTS
METALS

WORK ORDER NO. 9609083

DATE COLLECTED: 09/06/96

SAMPLE RESULT and SPIKE ADDED are in units of mg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE EXTRACTED	DATE ANALYZED	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD
ALUMINUM	09/17/96	09/25/96	<0.05	1	97	94	3
CALCIUM	09/17/96	09/26/96	1.6	20	101	100	1
COPPER	09/17/96	09/26/96	<0.01	1	95	94	0
IRON	09/17/96	09/25/96	<0.05	1	116	115	1
MAGNESIUM	09/17/96	09/25/96	1.1	20	105	103	2
MANGANESE	09/17/96	09/25/96	<0.01	1	102	100	3
ASSIUM	09/17/96	09/19/96	0.77	20	95	96	1
ODIUM	09/17/96	09/20/96	6.5	20	107	104	1

QC LIMITS FOR %RECOVERY = 75-125
QC LIMITS FOR RPD = 20

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.: 9609083 DATE COLLECTED: 09/06/96

UNITS for SAMPLE RESULT and SPIKE ADDED are given below
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE ANALYZED	UNITS	SAMPLE RESULT	SPIKE ADDED	% REC	% REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
AMMONIA	09/11/96	mg/L	0.045	0.50	87	87	0	10	77-115
CHLORIDE	09/18/96	mg/L	9.5	20	103	105	2	10	91-121
NITRATE	09/06/96	mg/L	0.044	0.50	97	103	4	15	76-129
NITRITE	09/06/96	mg/L	<0.01	0.67	100	101	1	10	92-113
SULFATE	09/09/96	mg/L	<5	10	140	130	7	10	54-150
DNESS	09/09/96	mg/L	7.6	40	100	100	0	20	74-127

SAMPLE /SAMPLE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.: 9609083 DATE COLLECTED: 09/06/96

UNITS for SAMPLE RESULT and SAMPLE DUPLICATE are given below
RELATIVE PERCENT DIFFERENCE (RPD) is in units of percent

TEST CODE	DATE ANALYZED	UNITS	SAMPLE RESULT	SAMPLE DUPLICATE	RPD	QC LIMITS RPD
ALKALINITY	09/17/96	mg/L	5	5	0	10
TOTAL DISSOLVED SOLIDS	09/13/96	mg/L	39	35	11	15
TURBIDITY[1]	09/06/96	NTU	0.19	0.18	5	7
SPECIFIC C DUCTANCE	09/19/96	umhos/cm	57	57	0	5

[1]Sample from another SDG was analyzed for the duplicate analysis.

Commonwealth

Site 1
test well sampling
middle day
9/9/96

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: 0510502
Project # 400096_4_50

Workorder # 9609104

Authorized Signature

Stephen L. Knollmeyer 10/3/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY N

NITRATE REPORT
(FORM #1B.1)

I. PWS INFORMATION:

1. PWS ID# INA
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-909-F	9/9/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No
10. Is the Sample Chlorinated? No
11. Was the Sample Collected after Treatment? No
12. Manifolded: [ ] If applicable, list the connected sources:

13. Routine [] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical
Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name:
Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	0.034			
MCL (mg/L)	10.0			
Detection Limit (mg/L)	0.02			
Analytical Method	SM 4500-NO3-F			
Date Analyzed*	09/11/96			
Lab Sample ID#	9609104-01			

* Holding time for chlorinated samples is 48 hours. Holding time for non-chlorinated samples is 14 days.

Laboratory Director Signature and Date Stephen Kwolek 10/3/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

:ed:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY NI

NITRITE REPORT
(FORM #1C.1)

I. PWS INFORMATION:

1. PWS ID# INA
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-909-F	9/9/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	<0.01			
MCL (mg/L)	1.0	1.0	1.0	1.0
Detection Limit (mg/L)	0.01			
Analytical Method	SM 4500-NO3-F			
Date Analyzed*	09/11/96			
Lab Sample ID#	9609104-01			

Laboratory Director Signature and Date Stephen Knollmeyer 10/3/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA — — — —
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC
5. DEP Source Code/Location ID: INA
6. Sample Location: 01-TEST-909-F
7. Date Collected: 9/9/96
8. Collected by: Collins
9. Is the Source Treated? No
10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical — Lab Cert.#: MA-014

Subcontracted? (Y,N) N — Lab Sample ID#: 9609104

(use symbols to relate each analyte to a specific lab)

Sub. Name: — Cert.#: — Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	---	NR	0.05	0.005	200.7	---	
Barium	---	NR	2.0	0.02	200.7	---	
Cadmium	---	NR	0.005	0.002	200.7	---	
Chromium	---	NR	0.1	0.005	200.7	---	
Fluoride*	---	NR	4.0	0.1	SM 4500-F-B	---	
Mercury	---	NR	0.002	0.0002	SM 3112B	---	
Selenium	---	NR	0.05	0.002	SM 3113B	---	
Sodium	9609104	7.0	none	1.0	200.7	09/20/96	
Antimony	---	NR	0.006	0.003	SM 3113B	---	
Beryllium	---	NR	0.004	0.0003	SM 3113B	---	
Nickel	---	NR	0.1	0.001	SM 3113B	---	
Thallium	---	NR	0.002	0.001	200.9	---	
Cyanide	---	NR	0.2	0.01	SM 4500-CN-C	---	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609104	5.0	---	5	SM 4500-S04-E	09/09/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Kuelbs 10/3/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	01-TEST-909-F	9/9/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: The well was chlorinated and flushed prior to sampling.

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: ____ Cert#: ____ Lab Symbol: ____
Notes: ____

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Lab Sample ID	---------	--------	-------	9609104				----
Turbidity (NTU)	180.1	0.05	09/10/96	0.08				
TDS	160.1	5	09/13/96	36				
Color (color units)	SM2120B	5	09/10/96	<5				----
Odor (TON)	140.1	1	NR					----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	09/17/96	6.0				
Hardness (CaCO3)	130.2	2	09/25/96	19				----
Calcium (Ca)	200.7	0.2	09/26/96	1.8				
Magnesium (Mg)	200.7	1	09/25/96	1.2				----
Aluminum (Al)	200.7	0.05	09/25/96	<0.05				----
Potassium (K)	258.1	0.05	10/01/96	0.65				----
Iron (Fe)	200.7	0.05	09/25/96	<0.05				----
ganese (Mn)	200.7	0.01	09/25/96	<0.01				----
ulfate (SO4)	SM 4500-SO4-E	2	09/18/96	5.0				

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	09/18/96	8.0				----
Silver (Ag)	272.1	0.01	NR					
Copper (Cu)	220.1	0.01	09/26/96	<0.01				
Zinc (Zn)	200.7	0.05	NR					----

Laboratory Director Signature and Date Steph Knowlton 10/3/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
ments:		

Laboratory Results Prepared For :

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER

Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : 0510502
Taken : 09/09/96
Transported : FED X
Type : GROUNDWATER
PO # : PS-027131

10/3/96 gcB
Certified by

Inorganic Results for 01-TEST-909-F

Matrix:GROUNDWATER — Collected on 09/09/96 10:00:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	6.0	mg/L	09/17/96	RNE
01E	AMMONIA NITROGEN as N	0.039	N, mg/L	09/11/96	SLS
01B	CHLORIDE	8.0	mg/L	09/18/96	TV
01B	COLOR-APPARENT	<5	apparent color	09/10/96	DF
01E	HARDNESS	19	mg/L	09/25/96	SLS
01C	NITRATE as NITROGEN	0.034	N, mg/L	09/11/96	SLS
01C	NITRITE, as NITROGEN	<0.01	N, mg/L	09/11/96	SLS
01B	SPECIFIC CONDUCTANCE	60	umhos/cm @25	09/19/96	RNE
01D	SULFATE	5.0	mg/L	09/18/96	JLU
01B	TOTAL DISSOLVED SOLIDS	36	mg/L	09/13/96	DF
01B	TURBIDITY	0.08	NTU	09/10/96	DF

Biology Results for 01-TEST-909-F

Matrix:GROUNDWATER — Collected on 09/09/96 10:00:00

	Analyte	Result	Units	Test Date	Analyst
01A	TOTAL COLIFORM BACTERIA	82	colonies/100ml	09/10/96	RNE

Metal Results for 01-TEST-909-F

Matrix:GROUNDWATER — Collected on 09/09/96 10:00:00

	Analyte	Result	Units	Test Date	Analyst
01F	ALUMINUM by ICP	<0.05	mg/L	09/25/96	JLZ
01F	CALCIUM by ICP	1.8	mg/L	09/26/96	BG
01F	COPPER by ICP	<0.01	mg/L	09/26/96	BG
01F	IRON by ICP	<0.05	mg/L	09/25/96	JLZ
01F	MAGNESIUM by ICP	1.2	mg/L	09/25/96	JLZ
01F	MANGANESE by ICP	<0.01	mg/L	09/25/96	JLZ
01F	POTASSIUM by ICP	0.65	mg/L	10/01/96	BG
01F	SODIUM by ICP	7.0	mg/L	10/01/96	JLZ

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: NITRATE as NITROGEN
Method 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition, 1996.

Test: NITRITE, as NITROGEN
Method SM 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition 1992.

Test: POTASSIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test Methodologies

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method SM 4500-S04-E, Standard Methods for the Examination of Water & Wastewater, 18th Edition 1992.

Test: TOTAL COLIFORM BACTERIA
Method 909A, Standard Methods for the Examination of Water and Wastewater, 16TH Edition, 1985.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, 1983 Revision.

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01
(413)572-3200 fax(413)572-32

Client:

Address:

Phone:

Job#/Proj. Manager:

Work ID:

Contact:

Collected by:

Workorder #

COC #

Shaded areas for office use

Comments
(Special Instructions)

1.

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID Use one line per container For volatiles-one line/analysis	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Method of shipment:

Received by: Date: Time:

Received by: 9-10-96 Date: Time:

Received by: Date: Time:

Laboratory:

Cooler #:

Temp. @ receipt: °C

Preservation pH checked

By: Date:

COOLER RECEIPT FORM

Contractor Cooler: 1-5
MRD Cooler #: 412L
Number of Coolers: 1

Workorder # 9609104

Project Name: 0510502

Date Received: 9-10-96

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 9-10-96

by (print) Lia Haworth (sign) Lia Haworth

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO
   If yes, enter carrier name & air bill number here: Fed X
2. Were custody seals on outside of cooler? ..... (YES) NO R.M
   How many & where: _____ seal date: _____ seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO N/A
4. Did you screen samples for radioactivity using the Geiger Counter? ..... YES (NO)
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
9. If required, was enough ice used? ..yes..... Type of ice: Bagged ice ..... (YES) NO
10. Have designated person initial here to acknowlege receipt of cooler: RM (date) 9-10-96

B. LOG-IN PHASE: Date samples were logged-in: 9-10-96

by(print) Lia Haworth (sign) Lia Haworth

11. Describe type of packing in cooler: None
12. Were all bottles sealed in separate plastic bags? ..... (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
14. Were all bqttle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO
15. Did all bottle labels agree with custody papers? ..... (YES) NO
16. Were correct containers used for the tests indicated? ..... (YES) NO
17. Were correct preservatives added to samples? ..... (YES) NO
18. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ YES NO N/A
20. Was the project manager called and status discussed? ..... (YES) NO
    If YES, give details on the back of this form.
21. Who was called? CER By whom? Lia Haworth (date) 9-10-96

J:\QC\DOC\COOL

QUALITY ASSESSMENT REPORT
FOR
LABORATORY ANALYSES

CLIENT NAME: Stone & Webster

WORK ORDER #: 9609104

CommonwealthAnalytical

BLANK RESULTS SUMMARY

WORK ORDER NO. 9609104

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	ALUMINUM	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	CALCIUM	09/17/96	09/26/96	WATER	NONE DETECTED	
LB	COPPER	09/17/96	09/26/96	WATER	NONE DETECTED	
LB	IRON	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	POTASSIUM	09/17/96	10/01/96	WATER	NONE DETECTED	
LB	MAGNESIUM	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	MANGANESE	09/17/96	09/25/96	WATER	NONE DETECTED	
LB	SODIUM	09/17/96	10/01/96	WATER	NONE DETECTED	
LB	HARDNESS	NONE	09/25/96	WATER	NONE DETECTED	
LB	AMMONIA NITROGEN	NONE	09/11/96	WATER	NONE DETECTED	
LB	NITRATE	NONE	09/11/96	WATER	NONE DETECTED	
LB	NITRITE	NONE	09/11/96	WATER	NONE DETECTED	

BLANK RESULTS SUMMARY

WORK ORDER NO. 9609104

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	SPECIFIC CONDUCTANCE	NONE	09/19/96	WATER	NONE DETECTED	
LB	SULFATE	NONE	09/18/96	WATER	NONE DETECTED	
LB	TOTAL DISSOLVED SOLIDS	NONE	09/13/96	WATER	NONE DETECTED	
LB	TURBIDITY	NONE	09/10/96	WATER	NONE DETECTED	

MATRIX SPIKE /MATRIX SPIKE DUPLICATE RESULTS
METALS

WORK ORDER NO. 9609104

DATE COLLECTED: 09/09/96

SAMPLE IDENTIFICATION: 9609083
SAMPLE RESULT and SPIKE ADDED are in units of mg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE EXTRACTED	DATE ANALYZED	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD
ALUMINUM	09/17/96	09/25/96	<0.05	1	97	94	3
CALCIUM	09/17/96	09/26/96	1.6	20	101	100	1
COPPER	09/17/96	09/26/96	<0.01	1	95	94	0
IRON	09/17/96	09/25/96	<0.05	1	116	115	1
MAGNESIUM	09/17/96	09/25/96	1.1	20	105	103	2
MANGANESE	09/17/96	09/25/96	<0.01	1	102	100	3
POTASSIUM	09/17/96	10/01/96	0.77	20	95	196	1
DIUM	09/17/96	10/01/96	6.5	20	107	104	1

QC LIMITS FOR %RECOVERY = 75-125
QC LIMITS FOR RPD = 20

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.: 9609104 DATE COLLECTED: 09/09/96

SAMPLE IDENTIFICATION: 01-TEST-909-F

UNITS for SAMPLE RESULT and SPIKE ADDED are given below
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE ANALYZED	UNITS	SAMPLE RESULT	SPIKE ADDED	% REC	% REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
CHLORIDE	09/19/96	mg/L	8.0	20	100	98	2	10	91-121
HARDNESS	09/25/96	mg/L	19	40	98	108	7	20	74-127
AMMONIA NITROGEN	09/11/96	mg/L	0.039	0.50	102	96	6	10	77-115
NITRATE	09/11/96	mg/L	0.034	0.50	91	85	6	15	76-129
NITRITE	09/11/96	mg/L	<0.01	0.67	100	100	0	10	92-113
SULFATE	09/18/96	mg/L	5	10	90	100	7	10	54-150

SAMPLE /SAMPLE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.: 9609104 DATE COLLECTED: 09/09/96

SAMPLE IDENTIFICATION: 01-TEST-909-F

UNITS for SAMPLE RESULT and SAMPLE DUPLICATE are given below
RELATIVE PERCENT DIFFERENCE (RPD) is in units of percent

TEST CODE	DATE ANALYZED	UNITS	SAMPLE RESULT	SAMPLE DUPLICATE	RPD	QC LIMITS RPD
ALKALINITY	09/17/96	mg/L	6.0	6.0	0	10
SPECIFIC. CONDUCTANCE	09/19/96	umhos/cm	60	59	2	5
TOTAL DISSOLVED SOLIDS[1]	09/13/96	mg/L	39	35	11	15
RBIDITY	09/10/96	NTU	0.08	0.08	0	7

[1]Sample from another SDG was analyzed for the duplicate analyses.

Site 1
test well sampling
last day
9/11/96

Commonwealth

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: 0510502
Project # 400096_4_50

Workorder # 9609172

Authorized Signature

Stephen L. Knollmeyer 10/17/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

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A division of Tighe & Bond Inc.

Commonwealth Analytical

Workorder #9609172

Laboratory Results Prepared For :

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER

Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : 0510502
Taken : 09/11/96
Transported : FED X
Type : GROUNDWATER
PO # : PS-027131

10/17/96 ER
Certified by

Workorder Comments

iod 531.1 was performed by Broward Testing Laboratory, Inc.
. Cert.#M-FL517. Radiochemistry was performed by Core Laboratories. Due to an error in sample shipment for Nitroaromatics the samples were never recieved by the subcontract laboratory.

Commonwealth Analytical

Workorder #9609172

Inorganic Results for 01-TEST-911-F

Matrix:GROUNDWATER — Collected on 09/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	5.0	mg/L	09/24/96	RNE
01E	AMMONIA NITROGEN as N	<0.02	N, mg/L	09/20/96	SLS
01B	CHLORIDE	8.0	mg/L	09/19/96	TV
01B	COLOR-APPARENT	<5	apparent color	09/12/96	DF
01F	CYANIDE, TOTAL	<0.01	mg/L	09/18/96	TM
01C	FLUORIDE	0.12	mg/L	09/25/96	DF
01E	HARDNESS	21	mg/L	09/25/96	SLS
01D	NITRATE as NITROGEN	0.026	N, mg/L	09/12/96	SLS
01D	NITRITE, as NITROGEN	<0.01	N, mg/L	09/12/96	SLS
01B	ODOR	1	TON	09/12/96	DF
01B	SPECIFIC CONDUCTANCE	57	umhos/cm @25	09/25/96	DF
01C	SULFATE	<5	mg/L	09/18/96	JLU
01B	TOTAL DISSOLVED SOLIDS	36	mg/L	09/18/96	DF
01B	TURBIDITY	0.30	NTU	09/12/96	DF

Biology Results for 01-TEST-911-F

Matrix:GROUNDWATER — Collected on 09/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01A	HETEROTROPHIC PLATE COUNT	6	colonies/mL	09/12/96	RNE
A	TOTAL COLIFORM BACTERIA	0	colonies/100ml	09/12/96	RNE

Metal Results for 01-TEST-911-F

Matrix:GROUNDWATER — Collected on 09/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01G	ALUMINUM by ICP	<0.05	mg/L	09/18/96	JLZ
01G	ANTIMONY by furnace AA	<0.003	mg/L	09/24/96	BG
01G	ARSENIC by ICP	<0.005	mg/L	09/17/96	JLZ
01G	BARIUM by ICP	<0.01	mg/L	09/18/96	JLZ
01G	BERYLLIUM by furnace AA	<0.0003	mg/L	09/26/96	JLZ
01G	CADMIUM by ICP	<0.001	mg/L	09/17/96	JLZ
01G	CALCIUM by ICP	1.8	mg/L	09/17/96	JLZ
01G	CHROMIUM by ICP	<0.005	mg/L	09/17/96	JLZ
01G	COPPER by ICP	<0.01	mg/L	09/17/96	JLZ
01G	IRON by ICP	<0.05	mg/L	09/18/96	JLZ
01G	LEAD by furnace AA	<0.001	mg/L	09/25/96	JLZ
01G	MAGNESIUM by ICP	1.0	mg/L	09/17/96	JLZ
01G	MANGANESE by ICP	<0.01	mg/L	09/17/96	JLZ
01G	MERCURY by cold vapor AA	<0.0002	mg/L	09/14/96	TM
01G	NICKEL by furnace AA	<0.001	mg/L	09/27/96	BG
01G	POTASSIUM by ICP	0.57	mg/L	09/19/96	JLZ
01G	SELENIUM by furnace AA	<0.002	mg/L	09/26/96	JLZ
01G	SILVER by ICP	<0.01	mg/L	09/18/96	JLZ
01G	SODIUM by ICP	6.9	mg/L	09/20/96	JLZ
	THALLIUM by furnace AA	<0.001	mg/L	09/20/96	JLZ

Commonwealth Analytical

Workorder #9609172

Subcontracted Results for 01-TEST-911-F

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01O	SUBCONTRACTED TEST	*	*		
01P	SUBCONTRACTED TEST	*	*		
01Q	SUBCONTRACTED TEST	*	*		

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 504.1 - EDB & DBCP in Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Extracted on 09/24/96
Analyzed on 09/24/96 by MAB

01N\504	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	106-93-4	1,2-Dibromoethane	ND	0.01
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.01
		1,4-Dichlorobutane	Surrogate % Recovery = 108	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 507 - Nitrogen & Phosphorous Pesticides

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Extracted on 09/16/96
Analyzed on 09/29/96 by MAG

01E\507	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	15972-60-8	Alachlor	ND	0.7
	1912-24-9	Atrazine	ND	0.3
	23184-66-9	Butachlor	ND	0.3
	51218-45-2	Metolachlor	ND	0.7
	21087-64-9	Metribuzin	ND	0.1
	1918-16-7	Propachlor	ND	0.5
	122-34-9	Simazine	ND	2
		Pentachloronitrobenzene	Surrogate % Recovery = 83	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 508 - Chlorinated Pesticides

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Extracted on 09/16/96
Analyzed on 09/26/96 by MAG

01f\508	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	309-00-2	Aldrin	ND	0.08
	57-74-9	Chlordane	ND	0.2
	60-57-1	Dieldrin	ND	0.02
	72-20-8	Endrin	ND	0.2
	76-44-8	Heptachlor	ND	0.04
	1024-57-3	Heptachlor Epoxide	ND	0.06
	118-74-1	Hexachlorobenzene	ND	0.1
	77-47-4	Hexachlorocyclopentadiene	ND	1
	58-89-9	Lindane	ND	0.07
	72-43-5	Methoxychlor	ND	0.8
	1918-16-7	Propachlor	ND	0.5
	8001-35-2	Toxaphene	ND	1
	12674-11-2	Aroclor 1016	ND	0.25
	11104-28-2	Aroclor 1221	ND	1
	11141-16-5	Aroclor 1232	ND	0.25
	53469-21-9	Aroclor 1242	ND	0.25
	12672-29-6	Aroclor 1248	ND	0.25
	11097-69-1	Aroclor 1254	ND	0.25
	11096-82-5	Aroclor 1260	ND	0.25
		Pentachloronitrobenzene	Surrogate % Recovery = 100	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 515.1 - Chlorinated Acids

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Extracted on 09/19/96
Analyzed on 09/28/96 by MAG

01J\515SDW	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	94-75-7	2,4-D	ND	1
	75-99-0	Dalapon	ND	1
	1918-00-9	Dicamba	ND	0.08
	88-85-7	Dinoseb	ND	0.5
	87-86-5	Pentachlorophenol	ND	0.3
	1918-02-1	Picloram	ND	1
	93-72-1	2,4,5-TP	ND	0.7
		2,4-Dichlorophenyl acetic acidSurrogate % Recovery = 108		

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Analyzed on 09/18/96 by MAB

01M\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	71-43-2	Benzene	ND	0.5
	108-86-1	Bromobenzene	ND	0.5
	74-97-5	Bromochloromethane	ND	0.5
	75-27-4	Bromodichloromethane	ND	0.5
	75-25-2	Bromoform	ND	0.5
	74-83-9	Bromomethane	ND	0.5
	104-51-8	n-Butylbenzene	ND	0.5
	135-98-8	sec-Butylbenzene	ND	0.5
	98-06-6	tert-Butylbenzene	ND	0.5
	56-23-5	Carbon tetrachloride	ND	0.5
	108-90-7	Chlorobenzene	ND	0.5
	75-00-3	Chloroethane	ND	0.5
	67-66-3	Chloroform	2.0	0.5
	74-87-3	Chloromethane	ND	0.5
	95-49-8	2-Chlorotoluene	ND	0.5
	106-43-4	4-Chlorotoluene	ND	0.5
	124-48-1	Dibromochloromethane	ND	0.5
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.5
	106-93-4	1,2-Dibromoethane	ND	0.5
	74-95-3	Dibromomethane	ND	0.5
	95-50-1	1,2-Dichlorobenzene	ND	0.5
	541-73-1	1,3-Dichlorobenzene	ND	0.5
	106-46-7	1,4-Dichlorobenzene	ND	0.5
	75-71-8	Dichlorodifluoromethane	ND	0.5
	75-34-3	1,1-Dichloroethane	ND	0.5
	107-06-2	1,2-Dichloroethane	ND	0.5
	75-35-4	1,1-Dichloroethene	ND	0.5
	156-59-4	cis-1,2-Dichloroethene	ND	0.5
	156-60-5	trans-1,2-Dichloroethene	ND	0.5
	78-87-5	1,2-Dichloropropane	ND	0.5
	142-28-9	1,3-Dichloropropane	ND	0.5
	590-20-7	2,2-Dichloropropane	ND	0.5
	563-58-6	1,1-Dichloropropene	ND	0.5
	10061-01-5	cis-1,3-Dichloropropene	ND	0.5
	10061-02-6	trans-1,3-Dichloropropene	ND	0.5
	100-41-4	Ethylbenzene	ND	0.5
	87-68-3	Hexachlorobutadiene	ND	0.5
	98-82-8	Isopropylbenzene	ND	0.5
	99-87-6	4-Isopropyltoluene	ND	0.5
	75-09-2	Methylene chloride	ND	0.5
	91-20-3	Naphthalene	ND	0.5
	103-65-1	n-Propylbenzene	ND	0.5
	100-42-5	Styrene	ND	0.5
	630-20-6	1,1,1,2-Tetrachloroethane	ND	0.5
	79-34-5	1,1,2,2-Tetrachloroethane	ND	0.5
	127-18-4	Tetrachloroethene	ND	0.5
	108-88-3	Toluene	ND	0.5

continued

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Analyzed on 09/18/96 by MAB

01M\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	87-61-6	1,2,3-Trichlorobenzene	ND	0.5
	120-82-1	1,2,4-Trichlorobenzene	ND	0.5
	71-55-6	1,1,1-Trichloroethane	ND	0.5
	79-00-5	1,1,2-Trichloroethane	ND	0.5
	79-01-6	Trichloroethene	ND	0.5
	75-69-4	Trichlorofluoromethane	ND	0.5
	96-18-4	1,2,3-Trichloropropane	ND	0.5
	95-63-6	1,2,4-Trimethylbenzene	ND	0.5
	108-67-8	1,3,5-Trimethylbenzene	ND	0.5
	75-01-4	Vinyl chloride	ND	0.5
	95-47-6	o-Xylene	ND	0.5
	108-38-3	m-Xylene	ND	0.5
	106-42-3	p-Xylene	ND	0.5
		4-Bromofluorobenzene	Surrogate % Recovery = 90	
		1,2-Dichlorobenzene-d4	Surrogate % Recovery = 94	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 525.2 - Organic Compounds in Drinking Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Extracted on 09/13/96
Analyzed on 09/20/96 by CJW

01K\525SDW	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	50-32-8	Benzo[a]pyrene	ND	0.1
	103-23-1	Bis(2-ethylhexyl)adipate	ND	0.6
	117-81-7	Bis(2-ethylhexyl)phthalate	ND	3
		Perylene-d12	Surrogate % Recovery = 94	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-F

Method 531.1 - Carbamates - Subcontracted

Matrix:GROUNDWATER

Collected on 09/11/96 16:00:00
Extracted on 09/20/96
Analyzed on 09/20/96

01L\531SUB	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	116-06-3	Aldicarb	ND	0.1
	1646-88-4	Aldicarb sulfone	ND	0.1
	1646-87-3	Aldicarb sulfoxide	ND	0.3
	1563-66-2	Carbofuran	ND	0.2
	16655-82-6	3-Hydroxycarbofuran	ND	0.2
	16752-77-5	Methomyl	ND	0.1
	23135-22-0	Oxamyl	ND	0.4
	63-25-2	Carbaryl	ND	0.07

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Inorganic Results for 01-TEST-911-D

Matrix:GROUNDWATER — Collected on 09/11/96 16:15:00

	Analyte	Result	Units	Test Date	Analyst
02B	ALKALINITY	4.0	mg/L	09/24/96	RNE
02E	AMMONIA NITROGEN as N	<0.02	N, mg/L	09/20/96	SLS
02B	CHLORIDE	3.0	mg/L	09/19/96	TV
02B	COLOR-APPARENT	<5	apparent color	09/12/96	DF
02F	CYANIDE, TOTAL	<0.01	mg/L	09/18/96	TM
02C	FLUORIDE	0.11	mg/L	09/25/96	DF
02E	HARDNESS	21	mg/L	09/25/96	SLS
02D	NITRATE as NITROGEN	0.026	N, mg/L	09/12/96	SLS
02D	NITRITE, as NITROGEN	<0.01	N, mg/L	09/12/96	SLS
02B	ODOR	1	TON	09/12/96	DF
02B	SPECIFIC CONDUCTANCE	60	umhos/cm @25	09/19/96	RNE
02C	SULFATE	5.0	mg/L	09/18/96	JLU
02B	TOTAL DISSOLVED SOLIDS	33	mg/L	09/18/96	DF
02B	TURBIDITY	0.13	NTU	09/12/96	DF

Biology Results for 01-TEST-911-D

Matrix:GROUNDWATER — Collected on 09/11/96 16:15:00

	Analyte	Result	Units	Test Date	Analyst
02A	HETEROTROPHIC PLATE COUNT	2	colonies/mL	09/12/96	RNE
02A	TOTAL COLIFORM BACTERIA	0	colonies/100ml	09/12/96	RNE

Metal Results for 01-TEST-911-D

Matrix:GROUNDWATER — Collected on 09/11/96 16:15:00

	Analyte	Result	Units	Test Date	Analyst
02G	ALUMINUM by ICP	<0.05	mg/L	09/18/96	JLZ
02G	ANTIMONY by furnace AA	<0.003	mg/L	09/24/96	BG
02G	ARSENIC by ICP	<0.005	mg/L	09/17/96	JLZ
02G	BARIUM by ICP	<0.01	mg/L	09/18/96	JLZ
02G	BERYLLIUM by furnace AA	<0.0003	mg/L	09/26/96	JLZ
02G	CADMIUM by ICP	<0.001	mg/L	09/17/96	JLZ
02G	CALCIUM by ICP	1.8	mg/L	09/17/96	JLZ
02G	CHROMIUM by ICP	<0.005	mg/L	09/17/96	JLZ
02G	COPPER by ICP	<0.01	mg/L	09/17/96	JLZ
02G	IRON by ICP	<0.05	mg/L	09/18/96	JLZ
02G	LEAD by furnace AA	<0.001	mg/L	09/25/96	JLZ
02G	MAGNESIUM by ICP	1.1	mg/L	09/17/96	JLZ
02G	MANGANESE by ICP	<0.01	mg/L	09/17/96	JLZ
02G	MERCURY by cold vapor AA	<0.0002	mg/L	09/14/96	TM
02G	NICKEL by furnace AA	0.0020	mg/L	09/27/96	BG
02G	POTASSIUM by ICP	0.66	mg/L	09/19/96	JLZ
02G	SELENIUM by furnace AA	<0.002	mg/L	09/26/96	JLZ
02G	SILVER by ICP	<0.01	mg/L	09/18/96	JLZ
02G	SODIUM by ICP	6.9	mg/L	09/20/96	JLZ
02G	THALLIUM by furnace AA	<0.001	mg/L	09/20/96	JLZ

Commonwealth Analytical

Subcontracted Results for 01-TEST-911-D

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00

	Analyte	Result	Units	Test Date	Analyst
02O	SUBCONTRACTED TEST	*	*		
02P	SUBCONTRACTED TEST	*	*		
02Q	SUBCONTRACTED TEST	*	*		

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-D

Method 504.1 - EDB & DBCP in Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Extracted on 09/24/96
Analyzed on 09/24/96 by MAB

02N\504	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	106-93-4	1,2-Dibromoethane	ND	0.01
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.01
		1,4-Dichlorobutane	Surrogate % Recovery = 104	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-D

Method 507 - Nitrogen & Phosphorous Pesticides

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Extracted on 09/16/96
Analyzed on 09/29/96 by MAG

02H\507	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	15972-60-8	Alachlor	ND	0.7
	1912-24-9	Atrazine	ND	0.3
	23184-66-9	Butachlor	ND	0.3
	51218-45-2	Metolachlor	ND	0.7
	21087-64-9	Metribuzin	ND	0.1
	1918-16-7	Propachlor	ND	0.5
	122-34-9	Simazine	ND	2
		Pentachloronitrobenzene	Surrogate % Recovery = 86	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-D

Method 508 - Chlorinated Pesticides

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Extracted on 09/16/96
Analyzed on 09/26/96 by MAG

02I\508	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	309-00-2	Aldrin	ND	0.08
	57-74-9	Chlordane	ND	0.2
	60-57-1	Dieldrin	ND	0.02
	72-20-8	Endrin	ND	0.2
	76-44-8	Heptachlor	ND	0.04
	1024-57-3	Heptachlor Epoxide	ND	0.06
	118-74-1	Hexachlorobenzene	ND	0.1
	77-47-4	Hexachlorocyclopentadiene	ND	1
	58-89-9	Lindane	ND	0.07
	72-43-5	Methoxychlor	ND	0.8
	1918-16-7	Propachlor	ND	0.5
	8001-35-2	Toxaphene	ND	1
	12674-11-2	Aroclor 1016	ND	0.25
	11104-28-2	Aroclor 1221	ND	1
	11141-16-5	Aroclor 1232	ND	0.25
	53469-21-9	Aroclor 1242	ND	0.25
	12672-29-6	Aroclor 1248	ND	0.25
	11097-69-1	Aroclor 1254	ND	0.25
	11096-82-5	Aroclor 1260	ND	0.25
		Pentachloronitrobenzene	Surrogate % Recovery = 102	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-D

Method 515.1 - Chlorinated Acids

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Extracted on 09/19/96
Analyzed on 09/28/96 by MAG

02J\515SDW	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	94-75-7	2,4-D	ND	1
	75-99-0	Dalapon	ND	1
	1918-00-9	Dicamba	ND	0.08
	88-85-7	Dinoseb	ND	0.5
	87-86-5	Pentachlorophenol	ND	0.3
	1918-02-1	Picloram	ND	1
	93-72-1	2,4,5-TP	ND	0.7
		2,4-Dichlorophenyl acetic acidSurrogate % Recovery = 124		

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Results for 01-TEST-911-D

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Analyzed on 09/18/96 by MAB

02M\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	71-43-2	Benzene	ND	0.5
	108-86-1	Bromobenzene	ND	0.5
	74-97-5	Bromochloromethane	ND	0.5
	75-27-4	Bromodichloromethane	ND	0.5
	75-25-2	Bromoform	ND	0.5
	74-83-9	Bromomethane	ND	0.5
	104-51-8	n-Butylbenzene	ND	0.5
	135-98-8	sec-Butylbenzene	ND	0.5
	98-06-6	tert-Butylbenzene	ND	0.5
	56-23-5	Carbon tetrachloride	ND	0.5
	108-90-7	Chlorobenzene	ND	0.5
	75-00-3	Chloroethane	ND	0.5
	67-66-3	Chloroform	2.1	0.5
	74-87-3	Chloromethane	ND	0.5
	95-49-8	2-Chlorotoluene	ND	0.5
	106-43-4	4-Chlorotoluene	ND	0.5
	124-48-1	Dibromochloromethane	ND	0.5
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.5
	106-93-4	1,2-Dibromoethane	ND	0.5
	74-95-3	Dibromomethane	ND	0.5
	95-50-1	1,2-Dichlorobenzene	ND	0.5
	541-73-1	1,3-Dichlorobenzene	ND	0.5
	106-46-7	1,4-Dichlorobenzene	ND	0.5
	75-71-8	Dichlorodifluoromethane	ND	0.5
	75-34-3	1,1-Dichloroethane	ND	0.5
	107-06-2	1,2-Dichloroethane	ND	0.5
	75-35-4	1,1-Dichloroethene	ND	0.5
	156-59-4	cis-1,2-Dichloroethene	ND	0.5
	156-60-5	trans-1,2-Dichloroethene	ND	0.5
	78-87-5	1,2-Dichloropropane	ND	0.5
	142-28-9	1,3-Dichloropropane	ND	0.5
	590-20-7	2,2-Dichloropropane	ND	0.5
	563-58-6	1,1-Dichloropropene	ND	0.5
	10061-01-5	cis-1,3-Dichloropropene	ND	0.5
	10061-02-6	trans-1,3-Dichloropropene	ND	0.5
	100-41-4	Ethylbenzene	ND	0.5
	87-68-3	Hexachlorobutadiene	ND	0.5
	98-82-8	Isopropylbenzene	ND	0.5
	99-87-6	4-Isopropyltoluene	ND	0.5
	75-09-2	Methylene chloride	ND	0.5
	91-20-3	Naphthalene	ND	0.5
	103-65-1	n-Propylbenzene	ND	0.5
	100-42-5	Styrene	ND	0.5
	630-20-6	1,1,1,2-Tetrachloroethane	ND	0.5
	79-34-5	1,1,2,2-Tetrachloroethane	ND	0.5
	127-18-4	Tetrachloroethene	ND	0.5
	108-88-3	Toluene	ND	0.5

continued

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-D

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Analyzed on 09/18/96 by MAB

02M\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	87-61-6	1,2,3-Trichlorobenzene	ND	0.5
	120-82-1	1,2,4-Trichlorobenzene	ND	0.5
	71-55-6	1,1,1-Trichloroethane	ND	0.5
	79-00-5	1,1,2-Trichloroethane	ND	0.5
	79-01-6	Trichloroethene	ND	0.5
	75-69-4	Trichlorofluoromethane	ND	0.5
	96-18-4	1,2,3-Trichloropropane	ND	0.5
	95-63-6	1,2,4-Trimethylbenzene	ND	0.5
	108-67-8	1,3,5-Trimethylbenzene	ND	0.5
	75-01-4	Vinyl chloride	ND	0.5
	95-47-6	o-Xylene	ND	0.5
	108-38-3	m-Xylene	ND	0.5
	106-42-3	p-Xylene	ND	0.5
		4-Bromofluorobenzene	Surrogate % Recovery = 89	
		1,2-Dichlorobenzene-d4	Surrogate % Recovery = 93	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for 01-TEST-911-D

Method 525.2 - Organic Compounds in Drinking Water

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Extracted on 09/13/96
Analyzed on 09/20/96 by CJW

02K\525SDW	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	50-32-8	Benzo[a]pyrene	ND	0.1
	103-23-1	Bis(2-ethylhexyl)adipate	ND	0.6
	117-81-7	Bis(2-ethylhexyl)phthalate	ND	3
		Perylene-d12	Surrogate % Recovery = 94	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Results for 01-TEST-911-D

Method 531.1 - Carbamates - Subcontracted

Matrix:GROUNDWATER

Collected on 09/11/96 16:15:00
Extracted on 09/20/96
Analyzed on 09/20/96

02L\531SUB	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	116-06-3	Aldicarb	ND	0.1
	1646-88-4	Aldicarb sulfone	ND	0.1
	1646-87-3	Aldicarb sulfoxide	ND	0.3
	1563-66-2	Carbofuran	ND	0.2
	16655-82-6	3-Hydroxycarbofuran	ND	0.2
	16752-77-5	Methomyl	ND	0.1
	23135-22-0	Oxamyl	ND	0.4
	63-25-2	Carbaryl	ND	0.07

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for TRIP BLANK

Method 504.1 - EDB & DBCP in Water

Matrix:LAB_WATER

Collected on 08/29/96 15:50:00
Extracted on 09/24/96
Analyzed on 09/24/96 by MAB

03B\504	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	106-93-4	1,2-Dibromoethane	ND	0.01
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.01
		1,4-Dichlorobutane	Surrogate % Recovery = 95	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9609172

Results for TRIP BLANK

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:LAB_WATER

Collected on 08/29/96 15:50:00
Analyzed on 09/18/96 by MAB

03A\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	71-43-2	Benzene	ND	0.5
	108-86-1	Bromobenzene	ND	0.5
	74-97-5	Bromochloromethane	ND	0.5
	75-27-4	Bromodichloromethane	ND	0.5
	75-25-2	Bromoform	ND	0.5
	74-83-9	Bromomethane	ND	0.5
	104-51-8	n-Butylbenzene	ND	0.5
	135-98-8	sec-Butylbenzene	ND	0.5
	98-06-6	tert-Butylbenzene	ND	0.5
	56-23-5	Carbon tetrachloride	ND	0.5
	108-90-7	Chlorobenzene	ND	0.5
	75-00-3	Chloroethane	ND	0.5
	67-66-3	Chloroform	ND	0.5
	74-87-3	Chloromethane	ND	0.5
	95-49-8	2-Chlorotoluene	ND	0.5
	106-43-4	4-Chlorotoluene	ND	0.5
	124-48-1	Dibromochloromethane	ND	0.5
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.5
	106-93-4	1,2-Dibromoethane	ND	0.5
	74-95-3	Dibromomethane	ND	0.5
	95-50-1	1,2-Dichlorobenzene	ND	0.5
	541-73-1	1,3-Dichlorobenzene	ND	0.5
	106-46-7	1,4-Dichlorobenzene	ND	0.5
	75-71-8	Dichlorodifluoromethane	ND	0.5
	75-34-3	1,1-Dichloroethane	ND	0.5
	107-06-2	1,2-Dichloroethane	ND	0.5
	75-35-4	1,1-Dichloroethene	ND	0.5
	156-59-4	cis-1,2-Dichloroethene	ND	0.5
	156-60-5	trans-1,2-Dichloroethene	ND	0.5
	78-87-5	1,2-Dichloropropane	ND	0.5
	142-28-9	1,3-Dichloropropane	ND	0.5
	590-20-7	2,2-Dichloropropane	ND	0.5
	563-58-6	1,1-Dichloropropene	ND	0.5
	10061-01-5	cis-1,3-Dichloropropene	ND	0.5
	10061-02-6	trans-1,3-Dichloropropene	ND	0.5
	100-41-4	Ethylbenzene	ND	0.5
	87-68-3	Hexachlorobutadiene	ND	0.5
	98-82-8	Isopropylbenzene	ND	0.5
	99-87-6	4-Isopropyltoluene	ND	0.5
	75-09-2	Methylene chloride	B 0.60	0.5
	91-20-3	Naphthalene	ND	0.5
	103-65-1	n-Propylbenzene	ND	0.5
	100-42-5	Styrene	ND	0.5
	630-20-6	1,1,1,2-Tetrachloroethane	ND	0.5
	79-34-5	1,1,2,2-Tetrachloroethane	ND	0.5
	127-18-4	Tetrachloroethene	ND	0.5
	108-88-3	Toluene	ND	0.5

continued

Commonwealth Analytical

Workorder #9609172

Results for TRIP BLANK

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:LAB_WATER

Collected on 08/29/96 15:50:00
Analyzed on 09/18/96 by MAB

03A\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	87-61-6	1,2,3-Trichlorobenzene	ND	0.5
	120-82-1	1,2,4-Trichlorobenzene	ND	0.5
	71-55-6	1,1,1-Trichloroethane	ND	0.5
	79-00-5	1,1,2-Trichloroethane	ND	0.5
	79-01-6	Trichloroethene	ND	0.5
	75-69-4	Trichlorofluoromethane	ND	0.5
	96-18-4	1,2,3-Trichloropropane	ND	0.5
	95-63-6	1,2,4-Trimethylbenzene	ND	0.5
	108-67-8	1,3,5-Trimethylbenzene	ND	0.5
	75-01-4	Vinyl chloride	ND	0.5
	95-47-6	o-Xylene	ND	0.5
	108-38-3	m-Xylene	ND	0.5
	106-42-3	p-Xylene	ND	0.5
		4-Bromofluorobenzene	Surrogate % Recovery = 91	
		1,2-Dichlorobenzene-d4	Surrogate % Recovery = 95	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Workorder Text

Radionuclide Analyses

Sample ID: 01-TEST-911-F

PARAMETER	RESULTS(pCi/L)	LOWER LEVEL OF DETECTION	DATE ANALYZED
Gross Alpha (1)	3.0	2.4	09/18/96
Gross Beta (1)	15.2	3.4	09/18/96
Gamma (2)			
Cesium 134 HPGe gamma	<3.2	NA	09/24/96
Radium 226 (3)	<0.77	0.7	10/03/96
Radium 228 (4)	2.0	2.0	10/03/96
Tritium (5)	<205	205	09/25/96
Strontium (6)	<1.7	1.7	09/20/96
Radon (7)	608	170	09/13/96

Sample ID: 01-TEST-911-D

PARAMETER	RESULTS(pCi/L)	LOWER LEVEL OF DETECTION	DATE ANALYZED
Gross Alpha (1)	5.2	2.4	09/18/96
Gross Beta (1)	10.4	3.4	09/18/96
Gamma (2)			
Cesium 134 HPGe gamma	<4.7	NA	09/24/96
Radium 226 (3)	<0.7	0.7	10/03/96
Radium 228 (4)	<1.7	1.7	10/03/96
Tritium (5)	<207	207	09/25/96
Strontium (6)	<1.7	1.7	09/20/96
Radon (7)	629	172	09/13/96

Method References:

(1) EPA Method 900.0
(2) EPA Method 901.1
(3) EPA Method 903.1
(4) EPA Method 904.0
(5) EPA Method 906.0
(6) EPA Method 905.0
(7) EPA 600/4-80-032

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ANTIMONY by furnace AA
Method SM 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: ARSENIC by ICP
Method 200.7, Methods for Determination of Metals in Environmental Samples EPA 600/R-94/111, Rev. 4.4, 5/94

Test: BARIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: BERYLLIUM by furnace AA
Method 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: CADMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: CHLORINATED ACIDS 515.1
Method 515.1, Methods for the Determinaiton of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Test: CHLORINATED PESTICIDES
Method 508, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Test: CHROMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test Methodologies

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: CYANIDE, TOTAL
Method SM 4500-CN-C Standard Methods for the Examination of Water and Wastewater, 18th edition 1992

Test: EDB & DBCP in water
Method 504.1, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised 1993).

Test: FLUORIDE
Method 4500-F-B Standard Methods for teh Examination of Water and Wastewater 18th Edition, 1992

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: HETEROTROPHIC PLATE COUNT
Method 907A,Standard Methods for the Examination of Water and Wastewater, 16TH Edition,1985.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: LEAD by furnace AA
Method 3113B, Standard Methods for the Examination of Water and Wastewaters, 18th Edition 1992.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MERCURY by cold vapor AA
Method SM 3112B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: N-METHYLCARBAMATES 531.1
Method 531.1, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Test: NICKEL by furnace AA
Method 3113B Standard Methods for the Examination of Water and Wastewaters 18th Edition, 1992.

Test: NITRATE as NITROGEN
Method 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition, 1996.

Test Methodologies

Test: NITRITE, as NITROGEN
Method SM 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition 1992.

Test: NITROGEN/PHOSPHOROUS PEST.
Method 507, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Test: ODOR
Method 140.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: POTASSIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SELENIUM by furnace AA
Method SM 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: SEMI-VOLATILE 525.2
Method 525.2, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised March 1994).

Test: SILVER by ICP
Method 200.7,Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020,1983 Revision.

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method SM 4500-S04-E, Standard Methods for the Examination of Water & Wastewater, 18th Edition 1992.

Test: THALLIUM by furnace AA
Method 200.9, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79,1983 Revision.

Test: TOTAL COLIFORM BACTERIA
Method 909A, Standard Methods for the Examination of Water and Wastewater, 16TH Edition, 1985.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, 1983 Revision.

Test Methodologies

Test: VOLATILES 524.2
Method 524.2, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Chain of Custody Form

53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: Stone Lobster Job#/Proj. Manager: Daisy Picking

Address: 245 Summer St Work ID: 0510508

Boston, MA 02210 Contact: Carolina

Phone: 508/563-9540 Collected by: Carolina

Workorder # 4187172

COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑
48 hr. ☐ 2 wk. ☐ Specify: 30d

Special Detection Limits? (✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)

1. 525
2. 508
3. Carbon (NO2, NO3)

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	Outfall F	W	9/11/16 1600			2	G	✓			✓														1
						2	G	✓																	1
						1	P							✓									1		
						1	P							✓									1		
	"		"			1	P							✓											
	Outfall D		9/11/16 1615			X	P							✓									3		
						1	G	✓			✓														1
						1	G	✓																	1
						1	P							✓									2		
	"		"			1	P							✓									1		

Relinquished by: [illegible] Date: 9/11/16 Time: 1700

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Method of shipment: Fed Ex

Received by: Date: Time:

Received by: Date: Time:

Received by: Date: Time:

Laboratory: C/A

Cooler #:

Temp. @ receipt:

Preservation pH checked

By: Date:

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Site 1 Test

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: Stark Abbott Job#/Proj. Manager: Billy McCoy

Address: 245 Summer St Work ID: 030502.0

Boston MA 02210 Contact: Collins

Phone: 617 562-4542 Collected by: Collins

Workorder # 9109172

COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑
48 hr. ☐ 2 wk. ☐ Specify: 5 day

Special Detection Limits?(✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)
1. 601
2. 515
3. TOT Cyanide
4. metals
5. Composite all

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	ISH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	01-1RT-911-15	W	9-11 1005	✓		2	G	✓																		1
		"	"			2	G	✓																		
						3	P					✓														
						3	P		✓																	
	↓	↓	↓			3	P			✓																
	01-1RT-911-D		9-11 1015			1	P	✓																		1
						1	P	✓																		2
						1	P					✓								2						
						1	P		✓										1							
	Trip Blank	W	9-11	✓		2	V				✓															

Relinquished by: [illegible] Date: 9-11-15 Time: [illegible]

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Method of shipment: Courier

Received by: Date: Time:

Received by: Date: Time:

Received by: Date: Time:

Laboratory: C/A

Cooler #:

Temp. @ receipt:

Preservation pH checked

By: Date:

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Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: [illegible] Job#/Proj. Manager: [illegible]

Address: [illegible] Work ID: 0510500.

Contact: [illegible]

Phone: [illegible] Collected by: [illegible]

Workorder # 1609772 COC #

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑
48 hr. ☐ 2 wk. ☐ Specify: 30d

Special Detection Limits?(✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Shaded areas for office use

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)
1. Radionuclides
2. Metals
3. Volatiles
4. Semivolatiles

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	01-WEST-911-F	W	9-11-96 1020	✓		2	P		✓																	1
						3	G																			1
						2	P	✓																		1
	01-RS-911-D		9-11-96 1015			1	P	✓	✓																	1
						2	G							✓												1
						1	P	✓																		2
						1	P			✓														✓		1

Relinquished by: [illegible] Date: 9-11-96 Time: 1030
Received by: [illegible] Date: 9-12-96 Time: 9:11

Relinquished by: Date: Time:
Received by: 9-12-96 Date: Time:

Relinquished by: RH Date: Time:
Received by: Date: Time:

Method of shipment: Via Fed X
Laboratory: C/A

Cooler #: [illegible]
Temp. @ receipt: [illegible]
Preservation pH checked
By: RH Date: 9-12-96

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911 TEST

Chain of Custody Form (12)

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: _____ Job#/Proj. Manager: _____

Address: SA / A Work ID: _____

Contact: _____

Phone: _____ Collected by: _____

Workorder # 960172 COC # _____

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑
48 hr. ☐ 2 wk. ☐ Specify: TAT

Special Detection Limits? (✓)
Yes ☐ No ☑
Specify: _____

Special QA/QC? (✓)
Yes ☐ No ☑
Specify: _____

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)
1. Metals – Gen Chem

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	01-TEST-911-F	W	9-11-96 10:15	✓		1	P																			
	01-TEST-911-D	↓	9-11-96 10:15	✓		1	P		✓										✓							

Relinquished by: [signature] Date: 9-11-96 Time: 1600
Received by: [signature] Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: RH Date: Time:
Received by: Date: Time:

Method of shipment: Fed X
Laboratory: C/A

Cooler #: _____
Temp. @ receipt: _____
Preservation pH checked
By: RH Date: _____

F1 TEST

Chain of Custody Form

send to Larry Kinney

(412)

Contoocook Analytical
53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: SK - Webster
Address: 245 SUMMER ST
Boston MA 02210
Phone: 508/563-9542

Job#/Proj. Manager:
Work ID: 05502
Contact: Collins
Collected by: Collins

Workorder # 9609172

COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☒
48 hr. ☐ 2 wk. ☐ Specify: 30d

Special Detection Limits?(✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)
1. tritium

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	01·TEST·911·F	SW	9·11·96 1600	✓		2	G							✓												1
	01·TEST·911·D	↓	9·11·96 1615	✓		1	G							✓												1

Relinquished by: [signature] Date: 9·11·96 Time: 1630
Received by: Kris Hamlin Date: 9·12·96 Time: 9:15

Relinquished by: Date: Time:
Received by: 9·12·96 Date: Time:

Relinquished by: K M Date: Time:
Received by: Date: Time:

Method of shipment: Via Fed X
Laboratory: C/A

Cooler #: 27L, 16*, 55

Temp. @ receipt: 0°-0°-2.1

Preservation pH checked
By: KM Date: 9·12·96

5 of 7 TST

Chain of Custody Form (1/2)

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01
(413)572-3200 fax(413)572-321

send to Larry Kaing

Client: S.W.R. Hydro
Address: 245 Summer St
Boston, MA 02210
Phone: 508/563-9542

Job#/Proj. Manager:
Work ID: 0510502
Contact: O'Neill
Collected by: O'Neill

Workorder #9609172
COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑ 2wd
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)
1. 524
2. 504
3. 531
4. Radon
~~5. trihalomethanes~~

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other ASC Acid	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
037	Trip Blank	RW	8.29.96 1550	✓		2	G						✓			—										
038	Trip Blank	↓	↓			2	G	✓								2										
	01·TEST·911·F	GW	9.11.96 1600			6	G				✓		✓			1										
	01·TEST·911·D		9.11.96 1615			6	G				✓		✓			1										
	11		11			6	G	✓			✓					2										
	01·TEST·911·F		9.11.96 1600			6	G	✓			✓					2										
	11		11			3	G							✓		4 VOC										4
	01·TEST·911·D		9.11.96 1615			3	G							✓		4 VOC										4
	11		11			3	G	✓								3 VOC										3
	01·TEST·911·F	↓	9.11.96 1600			3	G	✓								3 VOC										3

Relinquished by:	Date: 9.11.96	Time: 1630	Received by: Ken Hamrick
Relinquished by:	Date:	Time:	Received by: 9-12-96
Relinquished by: RH	Date:	Time:	Received by:
Method of shipment: Via FedX			Laboratory: C/A

Date: 9-12-96 Time: 9:15
Date: Time:
Date: Time:

Cooler #: 2L, 1L, 5V
Temp. @ receipt: 0°, 0° 2
Preservation pH checked
By: RH Date: 9-12-96

COOLER RECEIPT FORM

Contractor Cooler: YCS
MRD Cooler #: 272, 552 & NS #
Number of Coolers: 3

Workorder # 9609172

Project Name: 05 18 562

Date Received: 9-12-96

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 9-12-96

by (print) Ria Haworth (sign) Ria Haworth

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO
   If yes, enter carrier name & air bill number here: Fed X - 996 9405 117 — 195893231

2. Were custody seals on outside of cooler? ..... YES (NO)
   How many & where: Tape wrapped around - intact seal date: _____ seal name: _____

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO N/A

4. Did you screen samples for radioactivity using the Geiger Counter? ..... YES (NO)

5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO

7. Did you sign custody papers in the appropriate place? ..... (YES) NO

8. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.

9. If required, was enough ice used? ...yes..... Type of ice: Bagged ice ..... (YES) NO

10. Have designated person initial here to acknowlege receipt of cooler: R.H (date) 9-12-96

B. LOG-IN PHASE: Date samples were logged-in: 9-12-96

by(print) Ria Haworth (sign) Ria Haworth

11. Describe type of packing in cooler: No packing

12. Were all bottles sealed in separate plastic bags? ..... (YES) NO

13. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO

15. Did all bottle labels agree with custody papers? ..... (YES) NO

16. Were correct containers used for the tests indicated? ..... (YES) NO

17. Were correct preservatives added to samples? ..... (YES) NO

18. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO

19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ (YES) NO

20. Was the project manager called and status discussed? ..... YES NO
    If YES, give details on the back of this form.

21. Who was called? _____ By whom? _____ (date) _____

J:\QC\DOC\COOL

PM's listed on W.S.

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 961976
Prepared For:

COMMONWEALTH ANALYTICAL
CHRIS REYNOLDS
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085-5308

Date: 10/04/96

Signature

10-04-96
Date:

Name: Rondalynn Mull

Core Laboratories, Inc.
420 West First Street
Casper, WY 82601

Title: Laboratory Supervisor

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CORE LABORATORIES

FINAL REPORT DISTRIBUTION
10/04/96

JOB NUMBER: 961976

COMPANY NAME	COMPANY MAILING ADDRESS	COMPANY CITY	STATE	COMPANY ZIP CODE
COMMONWEALTH ANALYTICAL CHRIS REYNOLDS	53 SOUTHAMPTON ROAD	WESTFIELD	MA	01085-5308

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9609 138
DATE SAMPLED.....: 09/11/96
TIME SAMPLED.....: 16:00
WORK DESCRIPTION...: 9609 172-010

LABORATORY I.D...: 961976-0001
DATE RECEIVED....: 09/13/96
TIME RECEIVED....: 09:45
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Cesium 134, by HPGe gamma	<3.2		pCi/l	EPA 901.1	09/24/96	NRF
Gross Alpha, total	3.0		pCi/l	EPA 900.0	09/18/96	JG
Gross Alpha, total, error, +/-	1.9		pCi/l		09/18/96	JG
Gross Alpha, total, LLD	2.4		pCi/l		09/18/96	JG
Gross Beta, total	15.2		pCi/l	EPA 900.0	09/18/96	JG
Gross Beta, total, error, +/-	2.7		pCi/l		09/18/96	JG
Beta, total, LLD	3.4		pCi/l		09/18/96	JG
[illegible] 226, total	0.5		pCi/l	EPA 903.1	10/03/96	NRF
Radium 226, total, error, +/-	0.4		pCi/l		10/03/96	NRF
Radium 226, total, LLD	0.7		pCi/l		10/03/96	NRF
Radium 228, total	2.0		pCi/l	EPA 904.0	10/03/96	DW
Radium 228, total, error, +/-	0.9		pCi/l		10/03/96	DW
Radium 228, total, LLD	1.7		pCi/l		10/03/96	DW
Strontium 90, total	ND		pCi/l	EPA 905.0	09/20/96	NRF
Strontium 90, total, error, +/-	0.7		pCi/l		09/20/96	NRF
Strontium 90, total, LLD	1.7		pCi/l		09/20/96	NRF

420 West First Street
Casper, WY 82601
(307) 235-5741

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9609 138
DATE SAMPLED.....: 09/11/96
TIME SAMPLED.....: 16:15
WORK DESCRIPTION...: 9609 172-020

LABORATORY I.D...: 961976-0002
DATE RECEIVED....: 09/13/96
TIME RECEIVED....: 09:45
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Cesium 134, by HPGe gamma	<4.7		pCi/l	EPA 901.1	09/24/96	NRF
Gross Alpha, total	5.2		pCi/l	EPA 900.0	09/18/96	JG
Gross Alpha, total, error, +/-	2.2		pCi/l		09/18/96	JG
Gross Alpha, total, LLD	2.4		pCi/l		09/18/96	JG
Gross Beta, total	10.4		pCi/l	EPA 900.0	09/18/96	JG
Gross Beta, total, error, +/-	2.6		pCi/l		09/18/96	JG
[illegible]eta, total, LLD	3.4		pCi/l		09/18/96	JG
[illegible] 226, total	0.3		pCi/l	EPA 903.1	10/03/96	NRF
Radium 226, total, error, +/-	0.4		pCi/l		10/03/96	NRF
Radium 226, total, LLD	0.7		pCi/l		10/03/96	NRF
Radium 228, total	1.1		pCi/l	EPA 904.0	10/03/96	DW
Radium 228, total, error, +/-	0.8		pCi/l		10/03/96	DW
Radium 228, total, LLD	1.7		pCi/l		10/03/96	DW
Strontium 90, total	ND		pCi/l	EPA 905.0	09/20/96	NRF
Strontium 90, total, error, +/-	0.6		pCi/l		09/20/96	NRF
Strontium 90, total, LLD	1.7		pCi/l		09/20/96	NRF

420 West First Street
Casper, WY 82601
(307) 235-5741

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CORE LABORATORIES

LABORATORY TESTS RESULTS

10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9609 138
DATE SAMPLED.....: 09/11/96
TIME SAMPLED.....: 16:00
WORK DESCRIPTION...: 9609 172-01R

LABORATORY I.D...: 961976-0003
DATE RECEIVED....: 09/13/96
TIME RECEIVED....: 09:45
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Tritium, total	90.1		pCi/l	EPA 906.0	09/25/96	NRF
Tritium, total, error, +/-	126		pCi/l		09/25/96	NRF
Tritium, total, LLD	205		pCi/l		09/25/96	NRF

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CORE LAB

CORE LABORATORIES

LABORATORY TESTS RESULTS
10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9609 138
DATE SAMPLED.....: 09/11/96
TIME SAMPLED.....: 16:15
WORK DESCRIPTION...: 9609 172-02R

LABORATORY I.D...: 961976-0004
DATE RECEIVED....: 09/13/96
TIME RECEIVED....: 09:45
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Tritium, total	144		pCi/l	EPA 906.0	09/25/96	NRF
Tritium, total, error, +/-	130		pCi/l		09/25/96	NRF
Tritium, total, LLD	207		pCi/l		09/25/96	NRF

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CORE LABORATORIES

LABORATORY TESTS RESULTS

10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9609 138
DATE SAMPLED.....: 09/11/96
TIME SAMPLED.....: 16:00
WORK DESCRIPTION...: 9609 172-01P

LABORATORY I.D...: 961976-0005
DATE RECEIVED....: 09/13/96
TIME RECEIVED....: 09:45
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Radon 222	608		pCi/l		09/13/96	NRF
Radon 222 error, +/-	115		pCi/l		09/13/96	NRF
Radon 222 LLD	170		pCi/l		09/13/96	NRF

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CORE LAB

CORE LABORATORIES

LABORATORY TESTS RESULTS
10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9609 138
DATE SAMPLED.....: 09/11/96
TIME SAMPLED.....: 16:15
WORK DESCRIPTION...: 9609 172-02P

LABORATORY I.D...: 961976-0006
DATE RECEIVED....: 09/13/96
TIME RECEIVED....: 09:45
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Radon 222	629		pCi/l		09/13/96	NRF
Radon 222 error, +/-	116		pCi/l		09/13/96	NRF
Radon 222 LLD	172		pCi/l		09/13/96	NRF

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CORE LAB

CORE LABORATORIES

QUALITY CONTROL REPORT
10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Radon 222				DATE/TIME ANALYZED:09/13/96 22:24						QC BATCH NUMBER:182826
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :						TECHNICIAN:NRF
BLANK	MB	MB1RN0913	0.2							
STANDARD	LCS	ST1RN0913	25.5			23.6	108			
DUPLICATE	MD	961976-6	629	717	13					
PARAMETER:Gross Alpha, total				DATE/TIME ANALYZED:09/18/96 19:50						QC BATCH NUMBER:182940
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 900.0						TECHNICIAN:JG
BLANK	MB	MB2AB0916	ND							
STANDARD	LCS	LCS1A0916	21.7			25.5	85			
SPIKE	MS	961966-1	131					4.2	128	99
DUPLICATE	MD	961966-1	4.2	2.6	47					
PARAMETER:Gross Beta, total				DATE/TIME ANALYZED:09/18/96 20:02						QC BATCH NUMBER:182943
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 900.0						TECHNICIAN:JG
	MB	MB2AB0916	3.4							
RD	LCS	LCS1B0916	25.6			21.5	119			
SPIKE	MS	961966-1	136					5.7	108	121
DUPLICATE	MD	961966-1	5.7	9.2	47					
PARAMETER:Strontium 90, total				DATE/TIME ANALYZED:09/20/96 12:36						QC BATCH NUMBER:183046
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 905.0						TECHNICIAN:NRF
BLANK	MB	MB2SR0916	ND							
STANDARD	LCS	LC1SR0916	22.2			23.5	94			
SPIKE	MS	961976-1	43.1					ND	47.0	92
DUPLICATE	MD	961976-1	ND	0.1	0					
PARAMETER:Tritium, total				DATE/TIME ANALYZED:09/25/96 05:31						QC BATCH NUMBER:183236
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 906.0						TECHNICIAN:NRF
BLANK	MB	MB2H30924	0.8							
STANDARD	LCS	ST1H30924	21.2			21.5	99			
SPIKE	MS	961976-3	2010					90.1	2150	89
DUPLICATE	MD	961976-3	90.1	108	18					
PARAMETER:Cesium 134, by HPGe gamma				DATE/TIME ANALYZED:09/24/96 18:25						QC BATCH NUMBER:183323
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 901.1						TECHNICIAN:NRF
STANDARD	LCS10927	GMX-CS137	1310000			1260000	104			
DUPLICATE	MD	961976-1	<3.2	<2.4	0					
PARAMETER:Radium 228, total				DATE/TIME ANALYZED:10/03/96 09:47						QC BATCH NUMBER:183441
REPORTING LIMIT/DF:	UNITS:pCi/l			METHOD REFERENCE :EPA 904.0						TECHNICIAN:DW
BLANK	MB	MB3R80923	ND							

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CORE LABORATORIES

QUALITY CONTROL REPORT
10/04/96

JOB NUMBER: 961976 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Radium 228, total				DATE/TIME ANALYZED:10/03/96 09:47						QC BATCH NUMBER:183441
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 904.0						TECHNICIAN:DW
STANDARD	LCS	ST2R80923	14.8			11.5	129			
SPIKE	MS	961976-1	23.2					2.0	23.0	92
DUPLICATE	MD	961976-2	2.0	1.5	29					
PARAMETER:Radium 226, total				DATE/TIME ANALYZED:10/03/96 06:49						QC BATCH NUMBER:183444
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 903.0						TECHNICIAN:NRF
BLANK	MB*	MB3R60923	0.3							
STANDARD	LCS	ST2R60923	12.9			15.0	86			
SPIKE	MS	961976-1	28.5					0.5	30.0	93
DUPLICATE	MD	961976-1	0.5	ND	200					

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QUALITY CONTROL FOOTER

METHOD REFERENCES

(1) EPA 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, March 1983
(2) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, November 1990 and July 1992 update
(3) Standard Methods for the Examination of Water and Wastewater, 17th, 1989
(4) EPA 600/4-80-032, Prescribed Procedures for Measurement of Radioactivity in Drinking Water, August 1980
(5) Federal Register, Friday, October 26, 1984 (40 CFR Part 136)
(6) EPA 600/8-78-017, Microbiological Methods for Monitoring the Environment, December 1978

COMMENTS

(1) The data in the Laboratory Test Results Report may differ from the data in the QC Report due to calculations for sample preparation and/or dilutions.
(2) The "Time Analyzed" in the QC Report may not reflect the actual time of each analysis. The "Date Analyzed" is the actual date of analysis.
(3) Soil and sludge samples are reported on a wet basis or on an "as received" basis unless otherwise indicated.
(4) The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.
(5) Analyses performed by a subcontract laboratory are indicated with an asterisk and associated code in the "Technician" data field.

Subcontract Laboratories	Code
Core Laboratories - Anaheim, CA	* AN
Core Laboratories - Aurora, CO	* AU
Core Laboratories - Casper, WY	* CA
Core Laboratories - Corpus Christi, TX	* CC
Core Laboratories - Houston, TX	* HP
Core Laboratories - Lake Charles, LA	* LC
Core Laboratories - Long Beach, CA	* LB
Other Subcontract Laboratories	* XX

DEFINITIONS

(1) NC = Not Calculable due to values lower than the reporting limit.
(2) ND = Not Detected above the reporting limit.

QC SAMPLE IDENTIFICATIONS

BLANKS

MB - Method Blank (also referred to as a preparation blank)
RB - Reagent Blank
IB - Instrument Blank
ICB - Initial Calibration Blank
CCB - Continuing Calibration Blank
HB - Holding Blank (also referred to as a storage blank)

DUPLICATES

MSD - Matrix Spike Duplicate
MD = Method Duplicate

SPIKES

MS = Matrix Spike
MSD = Matrix Spike Duplicate
PDS = Post Digestion Spike
BS = Blank Spike (also referred to as a method spike)
SS = Surrogate Spike

REFERENCE STANDARDS

CS = Calibration Standard
RS = Reference Standard (also referred to as an external reference standard)
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
LCS = Laboratory Control Sample

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BROWARD TESTING LABORATORY, INC.
4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334

Date: 09/24/96 Report #: [illegible] Laboratory ID #: M-FL517

Client: COMMONWEALTH ANALYTICAL
53 SOUTHAMPTON ROAD
WESTFIELD, MA 0108[illegible]

Date Collected: 09/11/96
Time Collected: 16:00
SOURCE: 960917[illegible]-011
GROUND WATER

Date received at lab: 09/13/96 Time received at lab: 11:10

NOTE: "*" The MCL (Maximum Contaminant Level) or an established guideline has been exceeded for this contaminant.
"ND" This contaminant was not detected at or above our stated detection limit.

Fed Id #	Analysis Performed	Method	MCL (mg/L)	Det. Level	Level Detected	Anal Date
Carbamates						
2021	Carbaryl	531.1	---	0.000063	ND	09/20/9[illegible]
2022	Methomyl	531.1	---	0.00011	ND	09/[illegible]/9[illegible]
2043	Aldicarb sulfoxide (2)	531.1	0.007	0.00025	ND	09/20/96
2044	Aldicarb sulfone (2)	531.1	0.007	0.000095	ND	09/20/9[illegible]
2047	Aldicarb (2)	531.1	0.007	0.0001	ND	09/20/96
2066	3-Hydroxycarbofuran	531.1	---	0.00023	ND	09/20/9[illegible]
2036	Oxamyl (2)	531.1	0.2	0.0004	ND	09/20/9[illegible]
2046	Carbofuran	531.1	0.04	0.00011	ND	09/20/9[illegible]

These test results may be used for compliance purposes as required.

(2) THESE ANALYTES ARE NOT REQUIRED BY THE U.S.F.D.A. OR THE MASS.D.P.H. FOR FINISHED BOTTLED WATER TESTING AND ARE INCLUDED ONLY FOR THE CLIENT'S INFORMATION. THIS FOOTNOTE DOES NOT APPLY TO SOURCE WATER SAMPLES.

Gary J. Meyer

Gary Meyer, Lab Director

BROWARD TESTING LABORATORY, INC.

4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334

Date: 09/24/96 Report #: 7090223 Laboratory ID #: M-FL517

Client: COMMONWEALTH ANALYTICAL
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085

Date Collected: 09/11/96
Time Collected: 10:15
SOURCE: 9609172-02L
GROUND WATER

Date received at lab: 09/13/96 Time received at lab: 11:10

NOTE: "*" The MCL (Maximum Contaminant Level) or an established guideline has been exceeded for this contaminant.
"ND" This contaminant was not detected at or above our stated detection limit.

Fed Id #	Analysis Performed	Method	MCL (mg/l)	Det. Level	Level Detected	Anal Date
Carbamates						
2021	Carbaryl	531.1	---	0.000068	ND	09/20/9
2022	Methomyl	531.1	---	0.00011	ND	09/20/9
2043	Aldicarb sulfoxide (2)	531.1	0.007	0.0002	ND	09/20/96
2044	Aldicarb sulfone (2)	531.1	0.007	0.00009	ND	09/20/96
2047	Aldicarb (2)	531.1	0.007	0.0001	ND	09/20/96
2066	3-Hydroxycarbofuran	531.1	---	0.00023	ND	09/20/96
2036	Oxamyl (2)	531.1	0.2	0.0004	ND	09/20/96
2046	Carbofuran	531.1	0.04	0.00021	ND	09/20/96

These test results may be used for compliance purposes as required.

(2) THESE ANALYTES ARE NOT REQUIRED BY THE U.S.E.P.A. OR THE MASS.D.P.H. FOR FINISHED BOTTLED WATER TESTING AND ARE INCLUDED ONLY FOR THE CLIENT'S INFORMATION. THIS FOOTNOTE DOES NOT APPLY TO SOURCE WATER SAMPLES.

Gary J. Meyer

Gary Meyer, Lab Director

Chain of Custody Form

53 Southampton Rd. Westfield, MA 01085
(413)572-3200 fax(413)572-3215

Client: Commonwealth Analytical Job#/Proj. Manager: 400096-4-50

Address: 53 Southampton Rd. Work ID:

Westfield, MA 01085 Contact: Chris Reynolds

Phone: (413) 572-3200 Collected by:

Workorder #

Shaded areas for office use

COC #

Requested Turn Around Time (✓)
24 hr. [ ] 1 wk. [ ] Other [ ]
48 hr. [ ] 2 wk. [ ] Specify:

Special Detection Limits?(✓)
Yes [ ] No [ ]
Specify:

Special QA/QC? (✓)
Yes [ ] No [ ]
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)

① Method 531 with Mass detection limits.

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	other	14° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	9609172-01L	GW	9-11-96 16:00	✓		3								7090222 SEP 13												① *QC
	9609172-02L	GW	9-11-96 16:15	✓		2								7090223 SEP 13												①

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Method of s nt:

Received by: Date: Time:

Received by: Date: Time:

Received by: Date: Time:

Laboratory:

Cooler #:

Temp. @ receipt:

Preservation pH checked

By:

*QC

CommonwealthAnalytical

Re: Method 531

Date: 9-12-96

Broward Testing

1034 N.East, 44 Court

Ft. Lauderdale, Fl. 3334

Att. Sample Receipt

We are sending:

☐ report(s) ☐ proposal ☐ other _____ ☐ other documents

as listed below:

No. Copies	Description Ground
3	9609172-01L - ~~Public~~ R.H Water ← *Q
2	9609172-02L - Ground Water

☐ for your file

☐ as requested by _____

☐ revise and/or resubmit

☒ P.O. # 9609141

Remarks Please analyze by method 531.1 with Mass. detection limits.

Please also return our cooler 275 *QC please

Copies to: File

Very truly yours,

CommonwealthAnalytical

Paulette Arnold Reynolds

Westfield Executive Park · 53 Southampton Road · Westfield, MA 01085-5308 · Tel. 413-572-3200 · Fax 413-572-3215
12020 Sunrise Valley Drive · Suite 100 · Reston, VA 22091-3429 · Tel. 703-391-2770 · Fax 703-391-2766
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BROWARD TESTING LABORATORY, INC.
4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334

QA/QC DATA ENTRY SHEET
(ORGANICS)

Sample range: 7090222

PARAMETER	BLANK	% RECOVERY	REL % DIFF
Herbicides by 515.2 Date_____ Init_____			
2,4-D			
Pentachloro phenol			
Dicamba			
548.1 Date_____ Init_____			
Endothall			
549.1 Date_____ Init_____			
Diquat			
547 Date_____ Init_____			
Glyphosate			
531.1 Date 9/20/96 Init LO			
Oxamyl	BDL	94.9%	1.27%
Aldicarb	BDL	113.3%	1.49%
Carbaryl	BDL	128.5%	0
525.2 Date_____ Init_____			
Di(2-ethylhexyl phthalate			
Benzo(a)pyrene			
Lindane			
625 Date_____ Init_____			
246 trichloro phenol			
ButylBenzyl phthalate			

BROWARD TESTING LABORATORY, INC.
4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334

QA/QC DATE ENTRY SHEET
(ORGANICS)

Sample range: 7090222

PARAMETER	BLANK	% RECOVERY	REL % DIFF
502.2	Date_____	Init_____	
1, 4 Dichloro benzene			
cis-1,2 di chloroethene			
Bromodichloro methane			
Toluene			
504.1	Date_____	Init_____	
EDB			

QUALITY ASSESSMENT REPORT
FOR
LABORATORY ANALYSES

CLIENT NAME: Stone & Webster

WORK ORDER #: 9609172

CommonwealthAnalytical

BLANK RESULTS SUMMARY

WORK ORDER NO. 9609172

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	504	09/24/96	09/24/96	WATER	NONE DETECTED	
LB	524	NONE	09/18/96	WATER	NONE DETECTED	
LB	525	09/13/96	09/20/96	WATER	NONE DETECTED	
LB	507	09/16/96	09/29/96	WATER	NONE DETECTED	
B	508	09/16/96	09/26/96	WATER	NONE DETECTED	
LB	515	09/19/96	09/28/96	WATER	NONE DETECTED	
LB	ANTIMONY	09/13/96	09/24/96	WATER	NONE DETECTED	
LB	ALUMINUM	09/13/96	09/18/96	WATER	NONE DETECTED	
LB	ARSENIC	09/13/96	09/17/96	WATER	NONE DETECTED	
LB	BARIUM	09/13/96	09/18/96	WATER	NONE DETECTED	
LB	BERYLLIUM	09/24/96	09/26/96	WATER	NONE DETECTED	
LB	CALCIUM	09/13/96	09/17/96	WATER	NONE DETECTED	

BLANK RESULTS SUMMARY

WORK ORDER NO. 9609172

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	CADMIUM	09/13/96	09/17/96	WATER	NONE DETECTED	
LB	CHROMIUM	09/13/96	09/17/96	WATER	NONE DETECTED	
LB	COPPER	09/13/96	09/17/96	WATER	NONE DETECTED	
LB	IRON	09/13/96	09/18/96	WATER	NONE DETECTED	
B	LEAD	09/25/96	09/25/96	WATER	NONE DETECTED	
LB	MAGNESIUM	09/13/96	09/17/96	WATER	NONE DETECTED	
LB	MANGANESE	09/13/96	09/17/96	WATER	NONE DETECTED	
LB	MERCURY	09/13/96	09/14/96	WATER	NONE DETECTED	
LB	NICKEL	09/24/96	09/27/96	WATER	NONE DETECTED	
LB	POTASSIUM	09/13/96	09/19/96	WATER	NONE DETECTED	
LB	SELENIUM	09/26/96	09/26/96	WATER	NONE DETECTED	
LB	SILVER	09/13/96	09/18/96	WATER	NONE DETECTED	

BLANK RESULTS SUMMARY

WORK ORDER NO. 9609172

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	SODIUM	09/13/96	09/20/96	WATER	NONE DETECTED	
LB	THALLIUM	09/13/96	09/20/96	WATER	NONE DETECTED	
LB	CYANIDE	09/17/96	09/18/96	WATER	NONE DETECTED	
LB	FLUORIDE	NONE	09/25/96	WATER	NONE DETECTED	
LB	HARDNESS	NONE	09/25/96	WATER	NONE DETECTED	
LB	AMMONIA NITROGEN	NONE	09/20/96	WATER	NONE DETECTED	
LB	NITRATE	NONE	09/12/96	WATER	NONE DETECTED	
LB	NITRITE	NONE	09/12/96	WATER	NONE DETECTED	
LB	SPECIFIC CONDUCTANCE	NONE	09/25/96	WATER	NONE DETECTED	
LB	SULFATE	NONE	09/18/96	WATER	NONE DETECTED	
LB	TOTAL DISSOLVED SOLIDS	NONE	09/18/96	WATER	NONE DETECTED	
LB	TURBIDITY	NONE	09/12/96	WATER	NONE DETECTED	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 504

DATE COLLECTED: 09/11/96

WORK ORDER NO.: 9609172

DATE ANALYZED: 09/24/96

SAMPLE IDENTIFICATION: 01-TEST-911-F

SAMPLE RESULT and SPIKE ADDED are in units of µg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS %REC
EDB	<0.01	0.112	123	112	11	20	60-140
1,2-DIBROMO-3-CHLOROPROPANE	<0.01	0.112	111	116	5	20	60-140

SURROGATE PERCENT RECOVERY RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 504

DATE COLLECTED: 09/11/96

WORK ORDER NO. 9609172

DATE ANALYZED: 09/24/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY S1
01-TEST-911-F	108
01-TEST-911-D	104
TRIP BLANK	95

	QC LIMITS
1,4-DICHLOROBUTANE	70-130

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 524

DATE COLLECTED: 09/11/96

WORK ORDER NO.: 9609172

DATE ANALYZED: 09/18/96

SAMPLE IDENTIFICATION: 01-TEST-911-F

SAMPLE RESULT and SPIKE ADDED are in units of µg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS %REC
1,1-DICHLOROETHENE	<0.5	10	98	100	2	14	61-145
BENZENE	<0.5	10	99	107	9	11	76-127
TRICHLOROETHENE	<0.5	10	100	100	0	14	71-120
[illegible]JENE	<0.5	10	98	108	10	13	76-125
[illegible]LOROBENZENE	<0.5	10	90	108	18*	13	75-130

(*) outside QC limits

SURROGATE PERCENT RECOVERY RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 524

DATE COLLECTED: 09/11/96

WORK ORDER NO. 9609172

DATE ANALYZED: 09/18/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY	
	S1	S2
01-TEST-911-F	90	94
01-TEST-911-D	89	93

	QC LIMITS
S1 - 1,2-DICHLOROETHANE	80-120
TOLUENE=d8	80-120

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

ANALYSIS: 525 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/13/96

WORK ORDER NO. 9609172 DATE ANALYZED: 09/20/96

SAMPLE IDENTIFICATION: METHOD SPIKE

SAMPLE RESULT and SPIKE ADDED are in units of µg/L
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS % REC
BENZO(A)PYRENE	<0.1	10	112	95	16	29	70-130
BIS(2-ETHYLHEXYL)ADIPATE	<0.6	10	133	124	6	23	70-130
BIS(2-ETHYLHEXYL)PHTHALATE	<3	10	140	126	11	23	70-130

SURROGATE PERCENT RECOVERY RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

ANALYSIS: 525 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/13/96

WORK ORDER NO. 9609172 DATE ANALYZED: 09/20/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	S1	S2	S3	S4
01-TEST-911-F	107	94	116	94
01-TEST-911-D	93	94	103	94

		QC LIMITS
S1 =	1,3-DIMETH-2-NB	70-130
S2 =	TERPHENYL-D14	70-130
	TRIPHENYLPHOSPHATE	70-130
	PERYLENE-D12	70-130

METHOD SPIKE/METHOD SPIKE DUPLICATE RESULTS
PESTICIDES

ANALYSIS: 507 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/16/96

WORK ORDER NO.: 9609172 DATE ANALYZED: 09/29/96

SAMPLE IDENTIFICATION: 01-TEST-911-F

SAMPLE RESULTS and SPIKE ADDED are in units of µg/L
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS % REC
PROPACHLOR	<0.5	2.5	66*	85	25*	23	70-132
SIMAZINE	<2	2.5	81	94	15	25	70-132
ATRAZINE	<0.3	2.5	85	96	12	23	62-122
METRIBUZIN	<0.1	2.5	66*	87	27	31	71-131
ARACHLOR	<0.7	2.5	70	88	23	25	62-128
)LACHLOR	<0.7	2.5	74	90	20	29	63-123
ɔɔTACHLOR	<0.3	2.5	80	92	14	34	66-126

(*) outside QC limits

SURROGATE PERCENT RECOVERY RESULTS
PESTICIDES

ANALYSIS: 507 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/16/96

WORK ORDER: 9609172 DATE ANALYZED: 09/29/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY S1
01-TEST-911-F	83
01-TEST-911-D	86
	QC LIMITS
S1 = PENTACHLORONITROBENZENE	70-130

METHOD SPIKE/METHOD SPIKE DUPLICATE RESULTS
PESTICIDES

ANALYSIS: 508 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/16/96

WORK ORDER NO.: 9609172 DATE ANALYZED: 09/26/96

SAMPLE IDENTIFICATION: 01-TEST-911-F

SAMPLE RESULTS and SPIKE ADDED are in units of µg/L
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS % REC
HEXACHLOROCYCLOPENTADIENE	<1	1.0	99	104	5	34	43-103
PROPACHLOR	<0.5	1.0	126	130	3	14	73-133
HEXACHLOROBENZENE	<0.1	1.0	100	106	6	22	34-104
METHOXYCHLOR	<0.8	1.0	113	119	5	51	64-146

SURROGATE PERCENT RECOVERY RESULTS
PESTICIDES

ANALYSIS: 508 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/16/96

WORK ORDER: 9609172 DATE ANALYZED: 09/26/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY S1
01-TEST-911-F	100
01-TEST-911-D	102

	QC LIMITS
S1 = PENTACHLORONITROBENZENE	70-130

METHOD SPIKE/METHOD SPIKE DUPLICATE RESULTS
PESTICIDES

ANALYSIS: 515 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/19/96

WORK ORDER NO.: 9609172 DATE ANALYZED: 09/28/96

SAMPLE IDENTIFICATION: 01-TEST-911-F

SAMPLE RESULTS and SPIKE ADDED are in units of µg/L
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS % REC
DALAPON	<1	2.0	128	109	16	20	40-160
DICAMBA	<0.08	2.0	97	100	3	26	39-231
2,4-D	<1	2.0	109	97	12	24	42-214
ACHLOROPHENOL	<0.3	2.0	94	96	2	23	37-223
2,4,5-TP	<0.7	2.0	98	101	3	22	42-226
DINOSEB	<0.5	2.0	85	87*	2	36	0-85
PICLORAM	<1	2.0	103	112	8	26	44-138

(*) outside QC limits

SURROGATE PERCENT RECOVERY RESULTS
PESTICIDES

ANALYSIS: 515 DATE COLLECTED: 09/11/96 DATE EXTRACTED: 09/19/96

WORK ORDER: 9609172 DATE ANALYZED: 09/27/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY S1
01-TEST-911-F	108
01-TEST-911-D	124
QC LIMITS	
S1 = 2,4-DICHLOROPHENYL ACETIC ACID	70-130

MATRIX SPIKE /MATRIX SPIKE DUPLICATE RESULTS
METALS

WORK ORDER NO. 9609172
DATE COLLECTED: 09/11/96

SAMPLE IDENTIFICATION:01-TEST-911-F
SAMPLE RESULT and SPIKE ADDED are in units of mg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE EXTRACTED	DATE ANALYZED	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD
ANTIMONY	09/13/96	09/24/96	<0.003	0.1	108	112	4
ALUMINUM	09/13/96	09/18/96	<0.05	1	103	106	3
ARSENIC	09/13/96	09/17/96	<0.005	0.5	98	98	1
BARIUM	09/13/96	09/18/96	<0.01	1	99	99	0
BERYLLIUM	09/24/96	09/26/96	<0.0003	0.005	104	106	2
CADMIUM	09/13/96	09/17/96	<0.001	0.5	95	98	2
CALCIUM	09/13/96	09/17/96	1.8	10	100	100	0
CHROMIUM	09/13/96	09/17/96	<0.005	0.5	98	99	1
COPPER	09/13/96	09/17/96	<0.01	0.5	98	98	0
IRON	09/13/96	09/18/96	<0.05	1	110	113	3
LEAD	09/25/96	09/25/96	<0.001	0.050	104	103	1
MAGNESIUM	09/13/96	09/17/96	1.0	10	95	94	1
MANGANESE	09/13/96	09/17/96	<0.01	0.5	100	100	0
MERCURY	09/13/96	09/14/96	<0.0002	0.005	106	109	3
NICKEL	09/24/96	09/27/96	<0.001	0.050	102	105	2
POTASSIUM	09/13/96	09/19/96	0.57	20	100	99	0
SELENIUM	09/26/96	09/26/96	<0.002	0.050	92	95	3
SILVER	09/13/96	09/18/96	<0.01	0.1	99	99	0
SODIUM	09/13/96	09/20/96	6.9	20	107	102	2
THALLIUM	09/13/96	09/20/96	<0.001	0.1	78	88	11

QC LIMITS FOR %RECOVERY = 75-125
QC LIMITS FOR RPD = 20

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.: 9609172 DATE COLLECTED: 09/11/96

SAMPLE IDENTIFICATION: 01-TEST-911-F

UNITS for SAMPLE RESULT and SPIKE ADDED are given below
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE ANALYZED	UNITS	SAMPLE RESULT	SPIKE ADDED	% REC	% REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
CHLORIDE	09/19/96	mg/L	8.0	20	100	105	4	10	91-121
CYANIDE	09/18/96	mg/L	<0.01	0.21	100	100	0	15	72-112
FLUORIDE	09/25/96	mg/L	0.12	4.0	107	104	3	36	15-123
HARDNESS	09/25/96	mg/L	21	40	78	83	4	20	74-127
AMMONIA NITROGEN	09/20/96	mg/L	<0.02	0.50	102	100	2	10	77-115
NITRATE	09/12/96	mg/L	0.026	0.50	93	91	2	15	76-129
NITRITE	09/12/96	mg/L	<0.01	0.67	100	100	0	10	92-113
SULFATE	09/18/96	mg/L	<5	10	105	102	3	10	54-150

SAMPLE /SAMPLE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.: 9609172 DATE COLLECTED: 09/11/96

SAMPLE IDENTIFICATION: 01-TEST-911-F

UNITS for SAMPLE RESULT and SAMPLE DUPLICATE are given below
RELATIVE PERCENT DIFFERENCE (RPD) is in units of percent

TEST CODE	DATE ANALYZED	UNITS	SAMPLE RESULT	SAMPLE DUPLICATE	RPD	QC LIMITS RPD
ALKALINITY	09/24/96	mg/L	5.0	5.0	0	10
SPECIFIC CONDUCTANCE	09/25/96	umhos/cm	57	57	0	5
TOTAL DISSOLVED SOLIDS	09/18/96	mg/L	36	38	5	15
RBIDITY	09/12/96	NTU	0.30	0.28	7	7

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

I. PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-F	09/11/96	Collins

9. Is the Source Treated? No 10. Was the Sample Collected After Treatment? No
11. Manifolded [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9609172-01
Sub. Lab Name: Sub. Lab Cert.#:
Composited [If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	09/18/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	09/18/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	09/18/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	09/18/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	09/18/96
Trichloroethylene	ND	5.0	0.5	524.2	09/18/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	09/18/96
Vinyl Chloride	ND	2.0	0.5	524.2	09/18/96
Monochlorobenzene	ND	100.0	0.5	524.2	09/18/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	09/18/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	09/18/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	09/18/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	09/18/96
Ethylbenzene	ND	700.0	0.5	524.2	09/18/96
	ND	100.0	0.5	524.2	09/18/96
Tetrachloroethylene	ND	5.0	0.5	524.2	09/18/96
Toluene	ND	1000.0	0.5	524.2	09/18/96
Xylenes (total)	ND	10000.0	0.5	524.2	09/18/96
Dichloromethane	ND	5.0	0.5	524.2	09/18/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	09/18/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	09/18/96
Fluorotrichloromethane	ND	0.5	524.2	09/18/96
Dichlorodifluoromethane	ND	0.5	524.2	09/18/96
Bromochloromethane	ND	0.5	524.2	09/18/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	90	80-120
1,2-dichlorobenzene-d_4	94	80-120

**Outside QC limits.

The QA/QC required matrix spike sample information is on file at our office.

ND

Laboratory Director Signature and Date: Stephen Kuelbury 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

pted:	Disapproved:	Data entered into WQTS:
Comments:		

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	2.0	0.5	524.2	09/18/96
Bromodichloromethane	ND	0.5	524.2	09/18/96
Chlorodibromomethane	ND	0.5	524.2	09/18/96
Bromoform	ND	0.5	524.2	09/18/96
m-Dichlorobenzene	ND	0.5	524.2	09/18/96
Dibromomethane	ND	0.5	524.2	09/18/96
1,1-Dichloropropene	ND	0.5	524.2	09/18/96
1,1-Dichloroethane	ND	0.5	524.2	09/18/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
1,3-Dichloropropane	ND	0.5	524.2	09/18/96
Chloromethane	ND	0.5	524.2	09/18/96
Bromomethane	ND	0.5	524.2	09/18/96
1,2,3-Trichloropropane	ND	0.5	524.2	09/18/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
Chloroethane	ND	0.5	524.2	09/18/96
2,2-Dichloropropane	ND	0.5	524.2	09/18/96
o-Chlorotoluene	ND	0.5	524.2	09/18/96
p-Chlorotoluene	ND	0.5	524.2	09/18/96
Bromobenzene	ND	0.5	524.2	09/18/96
1,3-Dichloropropene	ND	0.5	524.2	09/18/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	09/18/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	09/18/96
n-Propylbenzene	ND	0.5	524.2	09/18/96
n-Butylbenzene	ND	0.5	524.2	09/18/96
Napthalene	ND	0.5	524.2	09/18/96
Hexachlorobutadiene	ND	0.5	524.2	09/18/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	09/18/96
p-Isopropyltoluene	ND	0.5	524.2	09/18/96
Isopropylbenzene	ND	0.5	524.2	09/18/96
Tert-butylbenzene	ND	0.5	524.2	09/18/96

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

. PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	09/11/96	Collins

9. Is the Source Treated? No 10. Was the Sample Collected After Treatment? No
11. Manifolded [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9609172-02
Sub. Lab Name: Sub. Lab Cert.#:
Composited [If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	09/18/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	09/18/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	09/18/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	09/18/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	09/18/96
Trichloroethylene	ND	5.0	0.5	524.2	09/18/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	09/18/96
Vinyl Chloride	ND	2.0	0.5	524.2	09/18/96
Monochlorobenzene	ND	100.0	0.5	524.2	09/18/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	09/18/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	09/18/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	09/18/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	09/18/96
Ethylbenzene	ND	700.0	0.5	524.2	09/18/96
	ND	100.0	0.5	524.2	09/18/96
Tetrachloroethylene	ND	5.0	0.5	524.2	09/18/96
Toluene	ND	1000.0	0.5	524.2	09/18/96
Xylenes (total)	ND	10000.0	0.5	524.2	09/18/96
Dichloromethane	ND	5.0	0.5	524.2	09/18/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	09/18/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	2.1	0.5	524.2	09/18/96
Bromodichloromethane	ND	0.5	524.2	09/18/96
Chlorodibromomethane	ND	0.5	524.2	09/18/96
Bromoform	ND	0.5	524.2	09/18/96
m-Dichlorobenzene	ND	0.5	524.2	09/18/96
Dibromomethane	ND	0.5	524.2	09/18/96
1,1-Dichloropropene	ND	0.5	524.2	09/18/96
1,1-Dichloroethane	ND	0.5	524.2	09/18/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
1,3-Dichloropropane	ND	0.5	524.2	09/18/96
Chloromethane	ND	0.5	524.2	09/18/96
Bromomethane	ND	0.5	524.2	09/18/96
1,2,3-Trichloropropane	ND	0.5	524.2	09/18/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
Chloroethane	ND	0.5	524.2	09/18/96
2,2-Dichloropropane	ND	0.5	524.2	09/18/96
o-Chlorotoluene	ND	0.5	524.2	09/18/96
p-Chlorotoluene	ND	0.5	524.2	09/18/96
Bromobenzene	ND	0.5	524.2	09/18/96
1,3-Dichloropropene	ND	0.5	524.2	09/18/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	09/18/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	09/18/96
n-Propylbenzene	ND	0.5	524.2	09/18/96
n-Butylbenzene	ND	0.5	524.2	09/18/96
Napthalene	ND	0.5	524.2	09/18/96
Hexachlorobutadiene	ND	0.5	524.2	09/18/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	09/18/96
p-Isopropyltoluene	ND	0.5	524.2	09/18/96
Isopropylbenzene	ND	0.5	524.2	09/18/96
Tert-butylbenzene	ND	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	09/18/96
Fluorotrichloromethane	ND	0.5	524.2	09/18/96
Dichlorodifluoromethane	ND	0.5	524.2	09/18/96
Bromochloromethane	ND	0.5	524.2	09/18/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	89	80-120
1,2-dichlorobenzene-d_4	93	80-120

The QA/QC required matrix spike sample information is on file at our office.

ND

Laboratory Director Signature and Date: Stephen Knollmeyer 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

pted:	Disapproved:	Data entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY N

NITRATE REPORT
(FORM #1B.1)

I. PWS INFORMATION:

1. PWS ID# INA 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-911-F	9/11/96	Collins
B: INA	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Is the Sample Chlorinated? No
11. Was the Sample Collected after Treatment? No
12. Manifolded: [ ] If applicable, list the connected sources:

13. Routine [] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	0.026	0.026		
MCL (mg/L)	10	10		
Detection Limit (mg/L)	0.02	0.02		
Analytical Method	SM 4500-NO3-F	SM 4500-NO3-F		
Date Analyzed*	09/12/96	09/12/96		
Lab Sample ID#	9609172-01	9609172-02		

* Holding time for chlorinated samples is 48 hours. Holding time for non-chlorinated samples is 14 days.

Laboratory Director Signature and Date Stephen Kowalczyk 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP;** within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

pted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY NI

NITRITE REPORT
(FORM #1C.1)

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-911-F	9/11/96	Collins
B: INA	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	<0.01	<0.01		
MCL (mg/L)	1.0	1.0	1.0	1.0
Detection Limit (mg/L)	0.01	0.01		
Analytical Method	SM 4500-NO3-F	SM 4500-NO3-F		
Date Analyzed*	09/12/96	09/12/96		
Lab Sample ID#	9609172-02	9609172-02		

Laboratory Director Signature and Date Stephen Kwolhuys 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP;** within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA — — — —
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC
5. DEP Source Code/Location ID: INA
6. Sample Location: 01-TEST-911-F
7. Date Collected: 9/11/96
8. Collected by: Collins
9. Is the Source Treated? No
10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical — Lab Cert.#: MA-014

Subcontracted? (Y,N) N — Lab Sample ID#: 9609172

(use symbols to relate each analyte to a specific lab)

Sub. Name: — Cert.#: — Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9609172	<0.005	0.05	0.005	200.7	09/17/96	
Barium	9609172	<0.01	2.0	0.01	200.7	09/18/96	
Cadmium	9609172	<0.001	0.005	0.001	200.7	09/17/96	
Chromium	9609172	<0.005	0.1	0.005	200.7	09/17/96	
Fluoride*	9609172	0.12	4.0	0.1	SM 4500-F-B	09/25/96	
Mercury	9609172	<0.0002	0.002	0.0002	SM 3112B	09/14/96	
Selenium	9609172	<0.002	0.05	0.002	SM 3113B	09/26/96	
Sodium	9609172	6.9	none	1.0	200.7	09/20/96	
Antimony	9609172	<0.003	0.006	0.003	SM 3113B	09/24/96	
Beryllium	9609172	<0.0003	0.004	0.0003	SM 3113B	09/26/96	
Nickel	9609172	<0.001	0.1	0.001	SM 3113B	09/27/96	
Thallium	9609172	<0.001	0.002	0.001	200.9	09/20/96	
Cyanide	9609172	<0.01	0.2	0.01	SM 4500-CN-C	09/18/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609172	<5	---	5	SM 4500-S04-E	09/18/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Knollmeyer 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS, 1 Winter Street, 9th Floor, Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID: INA 6. Sample Location: 01-TEST-911-D 7. Date Collected: 9/11/96 8. Collected by: Collins

Is the Source Treated? No 10. Was the Sample Collected after Treatment? No

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) N Lab Sample ID#: 9609172

(use symbols to relate each analyte to a specific lab)

Sub. Name: Cert.#: Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9609172	<0.005	0.05	0.005	200.7	09/17/96	
Barium	9609172	<0.01	2.0	0.01	200.7	09/18/96	
Cadmium	9609172	<0.001	0.005	0.001	200.7	09/17/96	
Chromium	9609172	<0.005	0.1	0.005	200.7	09/17/96	
Fluoride*	9609172	0.11	4.0	0.1	SM 4500-F-B	09/25/96	
Mercury	9609172	<0.0002	0.002	0.0002	SM 3112B	09/14/96	
Selenium	9609172	<0.002	0.05	0.002	SM 3113B	09/26/96	
Sodium	9609172	6.9	none	1.0	200.7	09/20/96	
Antimony	9609172	<0.003	0.006	0.003	SM 3113B	09/24/96	
Beryllium	9609172	<0.0003	0.004	0.0003	SM 3113B	09/26/96	
Nickel	9609172	0.0020	0.1	0.001	SM 3113B	09/27/96	
Thallium	9609172	<0.001	0.002	0.001	200.9	09/20/96	
Cyanide	9609172	<0.01	0.2	0.01	SM 4500-CN-C	09/18/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609172	5.0	---	5	SM 4500-S04-E	09/18/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Kyrollos 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 8th Floor; Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _____ 2. City/Town: Bourne _____
3. PWS Name: MMR _____ 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	01-TEST-911-D	9/11/96	Collins
B:	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: The well was chlorinated and flushed prior to sampling.

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: _____ Cert#: _____ Lab Symbol: _____
Notes: _____

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Lab Sample ID	---------	--------	-------	9609172 -01	9609172 -02			----
Turbidity (NTU)	180.1	0.05	09/12/96	0.30	0.13			
TDS	160.1	5	09/18/96	36	33			
Color (color units)	SM2120B	5	09/12/96	<5	<5			----
Odor (TON)	140.1	1	09/12/96	1	1			----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	09/24/96	5.0	4.0			
Hardness (CaCO3)	130.2	2	09/25/96	21	21			----
Calcium (Ca)	200.7	0.2	09/17/96	1.8	1.8			
Magnesium (Mg)	200.7	1	09/17/96	1.0	1.1			----
Aluminum (Al)	200.7	0.05	09/18/96	<0.05	<0.05			----
Potassium (K)	258.1	0.05	09/19/96	0.57	0.66			----
Iron (Fe)	200.7	0.05	09/18/96	<0.05	<0.05			----
nganese (Mn)	200.7	0.01	09/17/96	<0.01	<0.01			----
ulfate (SO4)	SM 4500-SO4-	2	09/18/96	<5	5.0			

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	09/19/96	8.0	3.0			----
Silver (Ag)	272.1	0.01	09/18/96	<0.01	<0.01			
Copper (Cu)	220.1	0.01	09/17/96	<0.01	<0.01			
Zinc (Zn)	200.7	0.05	-----	NR	NR			----

Laboratory Director Signature and Date Stephen Kyrollos 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP;** within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

I. PWS INFORMATION:

1. PWS ID# INA 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	9/11/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-01

Sub. Lab Name: Core Laboratories Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes: Gamma analysis was analyzed on 09/24/96. Results as follows: Cesium 134 was ND at 3.2 pCi/L.

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	3.0	15 pCi/L	2.4	900.0	09/18/96
Radium - 226*	ND	5 pCi/L	0.7	903.1	10/03/96
Radium - 228*	ND		2.0	904.0	10/03/96
Radon **	608	----	170		09/13/96
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	15.2	4 mrems/yr	3.4	900.0	09/18/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	205	906.0	09/25/96
Strontium - 90	ND	8 pCi/L	1.7	905.0	09/20/96

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).

** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date Stephen Knowlton 10/17/96

Attention:
Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

pted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	9/11/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-02

Sub. Lab Name: Core Laboratories Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes: Gamma analysis was analyzed on 09/24/96. Results as follows: Cesium 134 was ND at 4.7 pCi/L.

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	5.2	15 pCi/L	2.4	900.0	09/18/96
Radium - 226*	ND	5 pCi/L	0.7	903.1	10/03/96
Radium - 228*	ND		1.7	904.0	10/03/96
Radon **	629	----	172		09/13/96
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	10.4	4 mrems/yr	3.4	900.0	09/18/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	207	906.0	09/25/96
Strontium - 90	ND	8 pCi/L	1.7	905.0	09/20/96

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).
** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date Stephen Karaffays 10/17/96

Attention:
Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

R DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

epted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:

PWS ID#: INA _____ 2. City/Town: Bourne

PWS Name: MMR 4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-F	09/11/96	Collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes

10. Manifolded (Multiple) [ ] If applicable, list the connected sources: _____

11. Routine [ ] Special [x (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-01

(Use symbols to relate each analyte to a specific lab):

Sub. Name: Broward Testing Laboratories,Inc. # M-FL517 Lab Symbol: *

Sub. Name: _____ # _____ Lab Symbol: _____

Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

Compound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Carbofuran	ND	40	0.7	531.1	N/A	09/20/96	*
Oxamyl (Vydate)	ND	200	0.9	531.1	N/A	09/20/96	*
D	ND	70	1	515.1	09/19/96	09/28/96	
5-TP (Silvex)	ND	50	0.7	515.1	09/19/96	09/28/96	
Dalapon	ND	200	1	515.1	09/19/96	09/28/96	
Dinoseb	ND	7	0.5	515.1	09/19/96	09/28/96	
Picloram	ND	500	1	515.1	09/19/96	09/28/96	
Alachlor	ND	2	0.7	507	09/16/96	09/29/96	
Atrazine	ND	3	0.3	507	09/16/96	09/29/96	
Chlordane	ND	2	0.18	508	09/16/96	09/26/96	
Endrin	ND	2	0.13	508	09/16/96	09/26/96	
Heptachlor	ND	0.4	0.04	508	09/16/96	09/26/96	
Heptachlor epoxide	ND	0.2	0.05	508	09/16/96	09/26/96	
Lindane	ND	0.2	0.03	508	09/16/96	09/26/96	
Methoxychlor	ND	40	0.1	508	09/16/96	09/26/96	
PCB Aroclor 1016	ND	---	0.48	508	09/16/96	09/26/96	
PCB Aroclor 1221	ND	---	0.2	508	09/16/96	09/26/96	
PCB Aroclor 1232	ND	---	0.08	508	09/16/96	09/26/96	
roclor 1242	ND	---	0.15	508	09/16/96	09/26/96	
Aroclor 1248	ND	---	0.19	508	09/16/96	09/26/96	
PCB Aroclor 1254	ND	---	0.1	508	09/16/96	09/26/96	

PWS ID No: _____ (FORM #9.2) Town: Bourne

SOC

Compound: Regulated (continued)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aroclor 1260	ND	---	0.17	508	09/16/96	09/26/96	
(decachlorobiphenyl)	ND	0.5		508A	09/16/96	09/26/96	
Pentachlorophenol	ND	1	0.3	515.1	09/19/96	09/28/96	
Toxaphene	ND	3	1	508	09/16/96	09/26/96	
Benzo(a)pyrene	ND	0.2	0.1	515.1	09/19/96	09/28/96	
Di(2-ethylhexyl)adipate	ND	400	0.6	525.5	09/13/96	09/20/96	
Di(2-ethylhexyl)phthalates	ND	6	3	525.2	09/13/96	09/20/96	
Hexachlorobenzene	ND	1	0.09	508	09/16/96	09/26/96	
Hexachlorocyclopentadiene	ND	50	0.05	508/525	09/16/96	09/26/96	
Simazine	ND	4	2	507	09/16/96	09/29/96	
Dibromochloropropane (DBCP)*	ND	0.2	0.01	504.1	09/24/96	09/24/96	
Ethylene dibromide (EDB)*	ND	0.02	0.01	504.1	09/24/96	09/24/96	
Diquat		20	MONITORING FOR THESE COMPOUNDS HAS BEEN WAIVED ON A STATEWIDE BASIS FOR BOTH GROUND AND SURFACE WATER SOURCES.**				
Endothall		100					
Glyphosate		700					
2,3,7,8-TCDD (Dioxin)		$3X10^{-8}$					

Compound: Unregulated	Result µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aldicarb	ND	0.3	531.1	N/A	09/20/96	*
Aldicarb sulfoxide	ND	0.5	531.1	N/A	09/20/96	*
Aldicarb sulfone	ND	0.5	531.1	N/A	09/20/96	*
Carbaryl	ND	0.7	531.1	N/A	09/20/96	*
3-Hydroxycarbofuran	ND	0.4	531.1	N/A	09/20/96	*
Methomyl	ND	1.1	531.1	N/A	09/20/96	*
Dicamba	ND	0.08	515.1	09/19/96	09/28/96	
Aldrin	ND	0.08	508	09/16/96	09/26/96	
Butachlor	ND	0.3	507	09/16/96	09/29/96	
Dieldrin	ND	0.01	508	09/16/96	09/26/96	
Metolachlor	ND	0.7	507	09/16/96	09/29/96	
Metribuzin	ND	0.1	507	09/16/96	09/29/96	
Propachlor	ND	0.14	508	09/16/96	09/26/96	

The QA/QC required matrix spike sample information is on file at our office.

*Monitoring for these two compounds has been waived on a statewide basis for SURFACE WATER SOURCES only. Unless specifically requested by DEP, SURFACE WATER SOURCES do not have to monitor for these compounds.

**If you have been specifically instructed by DEP to monitor for these compounds, please report them on a separate sheet.

Laboratory Director Signature and Date Stephen Kowalczyk 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention WQA- within 30 days of receipt of results and within 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:

PWS ID#: INA _ _ _ _ _ 2. City/Town: Bourne

PWS Name: MMR 4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	09/11/96	Collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes

10. Manifolded (Multiple) [ ] If applicable, list the connected sources: _____

11. Routine [ ] Special [x (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-02

(Use symbols to relate each analyte to a specific lab):

Sub. Name: Broward Testing Laboratories, Inc. # M-FL517 Lab Symbol: *

Sub. Name: _____ # _____ Lab Symbol: _____

Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

Compound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Carbofuran	ND	40	0.7	531.1	N/A	09/20/96	*
Oxamyl (Vydate)	ND	200	0.9	531.1	N/A	09/20/96	*
D	ND	70	1	515.1	09/19/96	09/28/96	
-TP (Silvex)	ND	50	0.7	515.1	09/19/96	09/28/96	
Dalapon	ND	200	1	515.1	09/19/96	09/28/96	
Dinoseb	ND	7	0.5	515.1	09/19/96	09/28/96	
Picloram	ND	500	1	515.1	09/19/96	09/28/96	
Alachlor	ND	2	0.7	507	09/16/96	09/29/96	
Atrazine	ND	3	0.3	507	09/16/96	09/29/96	
Chlordane	ND	2	0.18	508	09/16/96	09/26/96	
Endrin	ND	2	0.13	508	09/16/96	09/26/96	
Heptachlor	ND	0.4	0.04	508	09/16/96	09/26/96	
Heptachlor epoxide	ND	0.2	0.05	508	09/16/96	09/26/96	
Lindane	ND	0.2	0.03	508	09/16/96	09/26/96	
Methoxychlor	ND	40	0.1	508	09/16/96	09/26/96	
PCB Aroclor 1016	ND	---	0.48	508	09/16/96	09/26/96	
PCB Aroclor 1221	ND	---	0.2	508	09/16/96	09/26/96	
PCB Aroclor 1232	ND	---	0.08	508	09/16/96	09/26/96	
roclor 1242	ND	---	0.15	508	09/16/96	09/26/96	
Aroclor 1248	ND	---	0.19	508	09/16/96	09/26/96	
PCB Aroclor 1254	ND	---	0.1	508	09/16/96	09/26/96	

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:
PWS ID#: INA 2. City/Town: Bourne
PWS Name: MMR 4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	09/11/96	Collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes
10. Manifolded (Multiple) [ ] If applicable, list the connected sources:
11. Routine [ ] Special [x (explain below)
Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:
Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-02
(Use symbols to relate each analyte to a specific lab):
Sub. Name: Broward Testing Laboratories,Inc. # M-FL517 Lab Symbol: *
Sub. Name: # Lab Symbol:
Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

Compound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Carbofuran	ND	40	0.7	531.1	N/A	09/20/96	*
Oxamyl (Vydate)	ND	200	0.9	531.1	N/A	09/20/96	*
D	ND	70	1	515.1	09/19/96	09/28/96	
-TP (Silvex)	ND	50	0.7	515.1	09/19/96	09/28/96	
Dalapon	ND	200	1	515.1	09/19/96	09/28/96	
Dinoseb	ND	7	0.5	515.1	09/19/96	09/28/96	
Picloram	ND	500	1	515.1	09/19/96	09/28/96	
Alachlor	ND	2	0.7	507	09/16/96	09/29/96	
Atrazine	ND	3	0.3	507	09/16/96	09/29/96	
Chlordane	ND	2	0.18	508	09/16/96	09/26/96	
Endrin	ND	2	0.13	508	09/16/96	09/26/96	
Heptachlor	ND	0.4	0.04	508	09/16/96	09/26/96	
Heptachlor epoxide	ND	0.2	0.05	508	09/16/96	09/26/96	
Lindane	ND	0.2	0.03	508	09/16/96	09/26/96	
Methoxychlor	ND	40	0.1	508	09/16/96	09/26/96	
PCB Aroclor 1016	ND	---	0.48	508	09/16/96	09/26/96	
PCB Aroclor 1221	ND	---	0.2	508	09/16/96	09/26/96	
PCB Aroclor 1232	ND	---	0.08	508	09/16/96	09/26/96	
roclor 1242	ND	---	0.15	508	09/16/96	09/26/96	
Aroclor 1248	ND	---	0.19	508	09/16/96	09/26/96	
PCB Aroclor 1254	ND	---	0.1	508	09/16/96	09/26/96	

PWS ID No: _____ (FORM #9.2) Town: Bourne **SOC**

Compound: Regulated (continued)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
PCB Aroclor 1260	ND	---	0.17	508	09/16/96	09/26/96	
(decachlorobiphenyl)	ND	0.5		508A	09/16/96	09/26/96	
Pentachlorophenol	ND	1	0.3	515.1	09/19/96	09/28/96	
Toxaphene	ND	3	1	508	09/16/96	09/26/96	
Benzo(a)pyrene	ND	0.2	0.1	515.1	09/19/96	09/28/96	
Di(2-ethylhexyl)adipate	ND	400	0.6	525.5	09/13/96	09/20/96	
Di(2-ethylhexyl)phthalates	ND	6	3	525.2	09/13/96	09/20/96	
Hexachlorobenzene	ND	1	0.09	508	09/16/96	09/26/96	
Hexachlorocyclopentadiene	ND	50	0.05	508/525	09/16/96	09/26/96	
Simazine	ND	4	2	507	09/16/96	09/29/96	
Dibromochloropropane (DBCP)*	ND	0.2	0.01	504.1	09/24/96	09/24/96	
Ethylene dibromide (EDB)*	ND	0.02	0.01	504.1	09/24/96	09/24/96	
Diquat		20	MONITORING FOR THESE COMPOUNDS HAS BEEN WAIVED ON A STATEWIDE BASIS FOR BOTH GROUND AND SURFACE WATER SOURCES.**				
Endothall		100					
Glyphosate		700					
2,3,7,8-TCDD (Dioxin)		$3X10^{-8}$					

Compound: Unregulated	Result µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aldicarb	ND	0.3	531.1	N/A	09/20/96	*
Aldicarb sulfoxide	ND	0.5	531.1	N/A	09/20/96	*
Aldicarb sulfone	ND	0.5	531.1	N/A	09/20/96	*
Carbaryl	ND	0.7	531.1	N/A	09/20/96	*
3-Hydroxycarbofuran	ND	0.4	531.1	N/A	09/20/96	*
Methomyl	ND	1.1	531.1	N/A	09/20/96	*
Dicamba	ND	0.08	515.1	09/19/96	09/28/96	
Aldrin	ND	0.08	508	09/16/96	09/26/96	
Butachlor	ND	0.3	507	09/16/96	09/29/96	
Dieldrin	ND	0.01	508	09/16/96	09/26/96	
Metolachlor	ND	0.7	507	09/16/96	09/29/96	
Metribuzin	ND	0.1	507	09/16/96	09/29/96	
Propachlor	ND	0.14	508	09/16/96	09/26/96	

The QA/QC required matrix spike sample information is on file at our office.

*Monitoring for these two compounds has been waived on a statewide basis for SURFACE WATER SOURCES only. Unless specifically requested by DEP, SURFACE WATER SOURCES do not have to monitor for these compounds.

**If you have been specifically instructed by DEP to monitor for these compounds, please report them on a separate sheet.

Laboratory Director Signature and Date Stephen Kmetz 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention WQA- within 30 days of receipt of results and within 10 days after the end of the reporting period.

/DWS USE ONLY: PLEASE INITIAL AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

I. PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-F	09/11/96	Collins

9. Is the Source Treated? No 10. Was the Sample Collected After Treatment? No
11. Manifolded [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9609172-01
Sub. Lab Name: Sub. Lab Cert.#:
Composited [If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	09/18/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	09/18/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	09/18/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	09/18/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	09/18/96
Trichloroethylene	ND	5.0	0.5	524.2	09/18/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	09/18/96
Vinyl Chloride	ND	2.0	0.5	524.2	09/18/96
Monochlorobenzene	ND	100.0	0.5	524.2	09/18/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	09/18/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	09/18/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	09/18/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	09/18/96
Ethylbenzene	ND	700.0	0.5	524.2	09/18/96
	ND	100.0	0.5	524.2	09/18/96
Tetrachloroethylene	ND	5.0	0.5	524.2	09/18/96
Toluene	ND	1000.0	0.5	524.2	09/18/96
Xylenes (total)	ND	10000.0	0.5	524.2	09/18/96
Dichloromethane	ND	5.0	0.5	524.2	09/18/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	09/18/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	09/18/96
Fluorotrichloromethane	ND	0.5	524.2	09/18/96
Dichlorodifluoromethane	ND	0.5	524.2	09/18/96
Bromochloromethane	ND	0.5	524.2	09/18/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	90	80-120
1,2-dichlorobenzene-d_4	94	80-120

**Outside QC limits.

The QA/QC required matrix spike sample information is on file at our office.

ND

Laboratory Director Signature and Date: Stephen Kuelberg 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP;** within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

:epted:	Disapproved:	Data entered into WQTS:
Comments:		

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	2.0	0.5	524.2	09/18/96
Bromodichloromethane	ND	0.5	524.2	09/18/96
Chlorodibromomethane	ND	0.5	524.2	09/18/96
Bromoform	ND	0.5	524.2	09/18/96
m-Dichlorobenzene	ND	0.5	524.2	09/18/96
Dibromomethane	ND	0.5	524.2	09/18/96
1,1-Dichloropropene	ND	0.5	524.2	09/18/96
1,1-Dichloroethane	ND	0.5	524.2	09/18/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
1,3-Dichloropropane	ND	0.5	524.2	09/18/96
Chloromethane	ND	0.5	524.2	09/18/96
Bromomethane	ND	0.5	524.2	09/18/96
1,2,3-Trichloropropane	ND	0.5	524.2	09/18/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
Chloroethane	ND	0.5	524.2	09/18/96
2,2-Dichloropropane	ND	0.5	524.2	09/18/96
o-Chlorotoluene	ND	0.5	524.2	09/18/96
p-Chlorotoluene	ND	0.5	524.2	09/18/96
Bromobenzene	ND	0.5	524.2	09/18/96
1,3-Dichloropropene	ND	0.5	524.2	09/18/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	09/18/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	09/18/96
n-Propylbenzene	ND	0.5	524.2	09/18/96
n-Butylbenzene	ND	0.5	524.2	09/18/96
Napthalene	ND	0.5	524.2	09/18/96
Hexachlorobutadiene	ND	0.5	524.2	09/18/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	09/18/96
p-Isopropyltoluene	ND	0.5	524.2	09/18/96
Isopropylbenzene	ND	0.5	524.2	09/18/96
Tert-butylbenzene	ND	0.5	524.2	09/18/96

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

I. PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	09/11/96	Collins

9. Is the Source Treated? No 10. Was the Sample Collected After Treatment? No
11. Manifolded [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9609172-02
Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	09/18/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	09/18/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	09/18/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	09/18/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	09/18/96
Trichloroethylene	ND	5.0	0.5	524.2	09/18/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	09/18/96
Vinyl Chloride	ND	2.0	0.5	524.2	09/18/96
Monochlorobenzene	ND	100.0	0.5	524.2	09/18/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	09/18/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	09/18/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	09/18/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	09/18/96
Ethylbenzene	ND	700.0	0.5	524.2	09/18/96
	ND	100.0	0.5	524.2	09/18/96
Tetrachloroethylene	ND	5.0	0.5	524.2	09/18/96
Toluene	ND	1000.0	0.5	524.2	09/18/96
Xylenes (total)	ND	10000.0	0.5	524.2	09/18/96
Dichloromethane	ND	5.0	0.5	524.2	09/18/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	09/18/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	2.1	0.5	524.2	09/18/96
Bromodichloromethane	ND	0.5	524.2	09/18/96
Chlorodibromomethane	ND	0.5	524.2	09/18/96
Bromoform	ND	0.5	524.2	09/18/96
m-Dichlorobenzene	ND	0.5	524.2	09/18/96
Dibromomethane	ND	0.5	524.2	09/18/96
1,1-Dichloropropene	ND	0.5	524.2	09/18/96
1,1-Dichloroethane	ND	0.5	524.2	09/18/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
1,3-Dichloropropane	ND	0.5	524.2	09/18/96
Chloromethane	ND	0.5	524.2	09/18/96
Bromomethane	ND	0.5	524.2	09/18/96
1,2,3-Trichloropropane	ND	0.5	524.2	09/18/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
Chloroethane	ND	0.5	524.2	09/18/96
2,2-Dichloropropane	ND	0.5	524.2	09/18/96
o-Chlorotoluene	ND	0.5	524.2	09/18/96
p-Chlorotoluene	ND	0.5	524.2	09/18/96
Bromobenzene	ND	0.5	524.2	09/18/96
1,3-Dichloropropene	ND	0.5	524.2	09/18/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	09/18/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	09/18/96
n-Propylbenzene	ND	0.5	524.2	09/18/96
n-Butylbenzene	ND	0.5	524.2	09/18/96
Napthalene	ND	0.5	524.2	09/18/96
Hexachlorobutadiene	ND	0.5	524.2	09/18/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	09/18/96
p-Isopropyltoluene	ND	0.5	524.2	09/18/96
Isopropylbenzene	ND	0.5	524.2	09/18/96
Tert-butylbenzene	ND	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	09/18/96
Fluorotrichloromethane	ND	0.5	524.2	09/18/96
Dichlorodifluoromethane	ND	0.5	524.2	09/18/96
Bromochloromethane	ND	0.5	524.2	09/18/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	89	80-120
1,2-dichlorobenzene-d_4	93	80-120

The QA/QC required matrix spike sample information is on file at our office.

ND

Laboratory Director Signature and Date: Stephen Kendall 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

epted:	Disapproved:	Data entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY N

NITRATE REPORT
(FORM #1B.1)

I. PWS INFORMATION:

1. PWS ID# INA _____ 2. City/Town: Bourne
3. PWS Name: MMR _____ 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-911-F	9/11/96	Collins
B: INA	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Is the Sample Chlorinated? No
11. Was the Sample Collected after Treatment? No
12. Manifolded: [ ] If applicable, list the connected sources:

13. Routine [] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: _____ Sub. Lab Cert.#: _____
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	0.026	0.026		
MCL (mg/L)	10	10		
Detection Limit (mg/L)	0.02	0.02		
Analytical Method	SM 4500-NO3-F	SM 4500-NO3-F		
Date Analyzed*	09/12/96	09/12/96		
Lab Sample ID#	9609172-01	9609172-02		

* Holding time for chlorinated samples is 48 hours. Holding time for non-chlorinated samples is 14 days.

Laboratory Director Signature and Date [signature] 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP;** within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

pted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY NI

NITRITE REPORT
(FORM #1C.1)

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-911-F	9/11/96	Collins
B: INA	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [X] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:

Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	<0.01	<0.01		
MCL (mg/L)	1.0	1.0	1.0	1.0
Detection Limit (mg/L)	0.01	0.01		
Analytical Method	SM 4500-NO3-F	SM 4500-NO3-F		
Date Analyzed*	09/12/96	09/12/96		
Lab Sample ID#	9609172-02	9609172-02		

Laboratory Director Signature and Date Stephen Kwolhuys 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP;** within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

epted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-F	9/11/96	Collins

Is the Source Treated? No
10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical
Lab Cert.#: MA-014
Subcontracted? (Y,N) N
Lab Sample ID#: 9609172
(use symbols to relate each analyte to a specific lab)
Sub. Name:
Cert.#:
Lab Symbol:
Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9609172	<0.005	0.05	0.005	200.7	09/17/96	
Barium	9609172	<0.01	2.0	0.01	200.7	09/18/96	
Cadmium	9609172	<0.001	0.005	0.001	200.7	09/17/96	
Chromium	9609172	<0.005	0.1	0.005	200.7	09/17/96	
Fluoride*	9609172	0.12	4.0	0.1	SM 4500-F-B	09/25/96	
Mercury	9609172	<0.0002	0.002	0.0002	SM 3112B	09/14/96	
Selenium	9609172	<0.002	0.05	0.002	SM 3113B	09/26/96	
Sodium	9609172	6.9	none	1.0	200.7	09/20/96	
Antimony	9609172	<0.003	0.006	0.003	SM 3113B	09/24/96	
Beryllium	9609172	<0.0003	0.004	0.0003	SM 3113B	09/26/96	
Nickel	9609172	<0.001	0.1	0.001	SM 3113B	09/27/96	
Thallium	9609172	<0.001	0.002	0.001	200.9	09/20/96	
Cyanide	9609172	<0.01	0.2	0.01	SM 4500-CN-C	09/18/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609172	<5	---	5	SM 4500-S04-E	09/18/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Swallow 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS, 1 Winter Street, 9th Floor, Boston, MA 02108; Attention; WOA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC
5. DEP Source Code/Location ID: INA
6. Sample Location: 01-TEST-911-D
7. Date Collected: 9/11/96
8. Collected by: Collins

Is the Source Treated? No

10. Was the Sample Collected after Treatment? No

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical
Lab Cert.#: MA-014
Subcontracted? (Y,N) N
Lab Sample ID#: 9609172

(use symbols to relate each analyte to a specific lab)

Sub. Name: Cert.#: Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9609172	<0.005	0.05	0.005	200.7	09/17/96	
Barium	9609172	<0.01	2.0	0.01	200.7	09/18/96	
Cadmium	9609172	<0.001	0.005	0.001	200.7	09/17/96	
Chromium	9609172	<0.005	0.1	0.005	200.7	09/17/96	
Fluoride*	9609172	0.11	4.0	0.1	SM 4500-F-B	09/25/96	
Mercury	9609172	<0.0002	0.002	0.0002	SM 3112B	09/14/96	
Selenium	9609172	<0.002	0.05	0.002	SM 3113B	09/26/96	
Sodium	9609172	6.9	none	1.0	200.7	09/20/96	
Antimony	9609172	<0.003	0.006	0.003	SM 3113B	09/24/96	
Beryllium	9609172	<0.0003	0.004	0.0003	SM 3113B	09/26/96	
Nickel	9609172	0.0020	0.1	0.001	SM 3113B	09/27/96	
Thallium	9609172	<0.001	0.002	0.001	200.9	09/20/96	
Cyanide	9609172	<0.01	0.2	0.01	SM 4500-CN-C	09/18/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609172	5.0	---	5	SM 4500-S04-E	09/18/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Kneeland 10/17/96

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DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	01-TEST-911-D	9/11/96	Collins
B:	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: The well was chlorinated and flushed prior to sampling.

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: _____ Cert#: _____ Lab Symbol: _____
Notes: _____

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L A	B	C	D	Lab Symbl
Lab Sample ID	---------	--------	-------	9609172 -01	9609172 -02			----
Turbidity (NTU)	180.1	0.05	09/12/96	0.30	0.13			
TDS	160.1	5	09/18/96	36	33			
Color (color units)	SM2120B	5	09/12/96	<5	<5			----
Odor (TON)	140.1	1	09/12/96	1	1			----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	09/24/96	5.0	4.0			
Hardness (CaCO3)	130.2	2	09/25/96	21	21			----
Calcium (Ca)	200.7	0.2	09/17/96	1.8	1.8			
Magnesium (Mg)	200.7	1	09/17/96	1.0	1.1			----
Aluminum (Al)	200.7	0.05	09/18/96	<0.05	<0.05			----
Potassium (K)	258.1	0.05	09/19/96	0.57	0.66			----
Iron (Fe)	200.7	0.05	09/18/96	<0.05	<0.05			----
nganese (Mn)	200.7	0.01	09/17/96	<0.01	<0.01			----
ulfate (SO4)	SM 4500-SO4-	2	09/18/96	<5	5.0			

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	09/19/96	8.0	3.0			----
Silver (Ag)	272.1	0.01	09/18/96	<0.01	<0.01			
Copper (Cu)	220.1	0.01	09/17/96	<0.01	<0.01			
Zinc (Zn)	200.7	0.05	-----	NR	NR			----

Laboratory Director Signature and Date [signature] 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

. PWS INFORMATION:

.PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	9/11/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-01

Sub. Lab Name: Core Laboratories Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes: Gamma analysis was analyzed on 09/24/96. Results as follows: Cesium 134 was ND at 3.2 pCi/L.

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	3.0	15 pCi/L	2.4	900.0	09/18/96
Radium - 226*	ND	5 pCi/L	0.7	903.1	10/03/96
Radium - 228*	ND		2.0	904.0	10/03/96
Radon **	608	----	170		09/13/96
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	15.2	4 mrems/yr	3.4	900.0	09/18/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	205	906.0	09/25/96
Strontium - 90	ND	8 pCi/L	1.7	905.0	09/20/96

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).

** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date Stephen Kavalloris 10/17/96

Attention:

Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

pted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	9/11/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-02

Sub. Lab Name: Core Laboratories Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes: Gamma analysis was analyzed on 09/24/96. Results as follows: Cesium 134 was ND at 4.7 pCi/L.

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	5.2	15 pCi/L	2.4	900.0	09/18/96
Radium - 226*	ND	5 pCi/L	0.7	903.1	10/03/96
Radium - 228*	ND		1.7	904.0	10/03/96
Radon **	629	----	172		09/13/96
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	10.4	4 mrems/yr	3.4	900.0	09/18/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	207	906.0	09/25/96
Strontium - 90	ND	8 pCi/L	1.7	905.0	09/20/96

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).

** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date Stephen Kavalhuz 10/17/96

Attention:

Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

R DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

epted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:
PWS ID#: INA _ _ _ _ _ 2. City/Town: Bourne
PWS Name: MMR 4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-F	09/11/96	Collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes
10. Manifolded (Multiple) [ ] If applicable, list the connected sources:
11. Routine [ ] Special [x (explain below)
Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:
Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-01
(Use symbols to relate each analyte to a specific lab):
Sub. Name: Broward Testing Laboratories,Inc. # M-FL517 Lab Symbol: *
Sub. Name: # Lab Symbol:
Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

Compound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Carbofuran	ND	40	0.7	531.1	N/A	09/20/96	*
Oxamyl (Vydate)	ND	200	0.9	531.1	N/A	09/20/96	*
D	ND	70	1	515.1	09/19/96	09/28/96	
5-TP (Silvex)	ND	50	0.7	515.1	09/19/96	09/28/96	
Dalapon	ND	200	1	515.1	09/19/96	09/28/96	
Dinoseb	ND	7	0.5	515.1	09/19/96	09/28/96	
Picloram	ND	500	1	515.1	09/19/96	09/28/96	
Alachlor	ND	2	0.7	507	09/16/96	09/29/96	
Atrazine	ND	3	0.3	507	09/16/96	09/29/96	
Chlordane	ND	2	0.18	508	09/16/96	09/26/96	
Endrin	ND	2	0.13	508	09/16/96	09/26/96	
Heptachlor	ND	0.4	0.04	508	09/16/96	09/26/96	
Heptachlor epoxide	ND	0.2	0.05	508	09/16/96	09/26/96	
Lindane	ND	0.2	0.03	508	09/16/96	09/26/96	
Methoxychlor	ND	40	0.1	508	09/16/96	09/26/96	
PCB Aroclor 1016	ND	---	0.48	508	09/16/96	09/26/96	
PCB Aroclor 1221	ND	---	0.2	508	09/16/96	09/26/96	
PCB Aroclor 1232	ND	---	0.08	508	09/16/96	09/26/96	
roclor 1242	ND	---	0.15	508	09/16/96	09/26/96	
PCB Aroclor 1248	ND	---	0.19	508	09/16/96	09/26/96	
PCB Aroclor 1254	ND	---	0.1	508	09/16/96	09/26/96	

PWS ID No: _____ (FORM #9.2) Town: Bourne SOC

Compound: Regulated (continued)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aroclor 1260	ND	---	0.17	508	09/16/96	09/26/96	
(decachlorobiphenyl)	ND	0.5		508A	09/16/96	09/26/96	
Pentachlorophenol	ND	1	0.3	515.1	09/19/96	09/28/96	
Toxaphene	ND	3	1	508	09/16/96	09/26/96	
Benzo(a)pyrene	ND	0.2	0.1	515.1	09/19/96	09/28/96	
Di(2-ethylhexyl)adipate	ND	400	0.6	525.5	09/13/96	09/20/96	
Di(2-ethylhexyl)phthalates	ND	6	3	525.2	09/13/96	09/20/96	
Hexachlorobenzene	ND	1	0.09	508	09/16/96	09/26/96	
Hexachlorocyclopentadiene	ND	50	0.05	508/525	09/16/96	09/26/96	
Simazine	ND	4	2	507	09/16/96	09/29/96	
Dibromochloropropane (DBCP)*	ND	0.2	0.01	504.1	09/24/96	09/24/96	
Ethylene dibromide (EDB)*	ND	0.02	0.01	504.1	09/24/96	09/24/96	
Diquat		20	MONITORING FOR THESE COMPOUNDS HAS BEEN WAIVED ON A STATEWIDE BASIS FOR BOTH GROUND AND SURFACE WATER SOURCES.**				
Endothall		100					
Glyphosate,		700					
2,3,7,8-TCDD (Dioxin)		$3X10^{-8}$					

Compound: Unregulated	Result µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aldicarb	ND	0.3	531.1	N/A	09/20/96	*
Aldicarb sulfoxide	ND	0.5	531.1	N/A	09/20/96	*
Aldicarb sulfone	ND	0.5	531.1	N/A	09/20/96	*
Carbaryl	ND	0.7	531.1	N/A	09/20/96	*
3-Hydroxycarbofuran	ND	0.4	531.1	N/A	09/20/96	*
Methomyl	ND	1.1	531.1	N/A	09/20/96	*
Dicamba	ND	0.08	515.1	09/19/96	09/28/96	
Aldrin	ND	0.08	508	09/16/96	09/26/96	
Butachlor	ND	0.3	507	09/16/96	09/29/96	
Dieldrin	ND	0.01	508	09/16/96	09/26/96	
Metolachlor	ND	0.7	507	09/16/96	09/29/96	
Metribuzin	ND	0.1	507	09/16/96	09/29/96	
Propachlor	ND	0.14	508	09/16/96	09/26/96	

The QA/QC required matrix spike sample information is on file at our office.

*Monitoring for these two compounds has been waived on a statewide basis for SURFACE WATER SOURCES only. Unless specifically requested by DEP, SURFACE WATER SOURCES do not have to monitor for these compounds.

**If you have been specifically instructed by DEP to monitor for these compounds, please report them on a separate sheet.

Laboratory Director Signature and Date Stephen Knowlton 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention WQA-

within 30 days of receipt of results and within 10 days after the end of the reporting period.

/DWS USE ONLY: PLEASE INITIAL AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:
PWS ID#: INA _ _ _ _ _ 2. City/Town: Bourne
PWS Name: MMR 4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	09/11/96	Collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes
10. Manifolded (Multiple) [ ] If applicable, list the connected sources:
11. Routine [ ] Special [x (explain below)
Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:
Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-02
(Use symbols to relate each analyte to a specific lab):
Sub. Name: Broward Testing Laboratories, Inc. # M-FL517 Lab Symbol: *
Sub. Name: # Lab Symbol:
Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

Compound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Carbofuran	ND	40	0.7	531.1	N/A	09/20/96	*
Oxamyl (Vydate)	ND	200	0.9	531.1	N/A	09/20/96	*
·-D	ND	70	1	515.1	09/19/96	09/28/96	
5-TP (Silvex)	ND	50	0.7	515.1	09/19/96	09/28/96	
Dalapon	ND	200	1	515.1	09/19/96	09/28/96	
Dinoseb	ND	7	0.5	515.1	09/19/96	09/28/96	
Picloram	ND	500	1	515.1	09/19/96	09/28/96	
Alachlor	ND	2	0.7	507	09/16/96	09/29/96	
Atrazine	ND	3	0.3	507	09/16/96	09/29/96	
Chlordane	ND	2	0.18	508	09/16/96	09/26/96	
Endrin	ND	2	0.13	508	09/16/96	09/26/96	
Heptachlor	ND	0.4	0.04	508	09/16/96	09/26/96	
Heptachlor epoxide	ND	0.2	0.05	508	09/16/96	09/26/96	
Lindane	ND	0.2	0.03	508	09/16/96	09/26/96	
Methoxychlor	ND	40	0.1	508	09/16/96	09/26/96	
PCB Aroclor 1016	ND	---	0.48	508	09/16/96	09/26/96	
PCB Aroclor 1221	ND	---	0.2	508	09/16/96	09/26/96	
PCB Aroclor 1232	ND	---	0.08	508	09/16/96	09/26/96	
roclor 1242	ND	---	0.15	508	09/16/96	09/26/96	
Aroclor 1248	ND	---	0.19	508	09/16/96	09/26/96	
PCB Aroclor 1254	ND	---	0.1	508	09/16/96	09/26/96	

Compound: Regulated (continued)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aroclor 1260	ND	---	0.17	508	09/16/96	09/26/96	
(decachlorobiphenyl)	ND	0.5		508A	09/16/96	09/26/96	
Pentachlorophenol	ND	1	0.3	515.1	09/19/96	09/28/96	
Toxaphene	ND	3	1	508	09/16/96	09/26/96	
Benzo(a)pyrene	ND	0.2	0.1	515.1	09/19/96	09/28/96	
Di(2-ethylhexyl)adipate	ND	400	0.6	525.5	09/13/96	09/20/96	
Di(2-ethylhexyl)phthalates	ND	6	3	525.2	09/13/96	09/20/96	
Hexachlorobenzene	ND	1	0.09	508	09/16/96	09/26/96	
Hexachlorocyclopentadiene	ND	50	0.05	508/525	09/16/96	09/26/96	
Simazine	ND	4	2	507	09/16/96	09/29/96	
Dibromochloropropane (DBCP)*	ND	0.2	0.01	504.1	09/24/96	09/24/96	
Ethylene dibromide (EDB)*	ND	0.02	0.01	504.1	09/24/96	09/24/96	
Diquat		20	MONITORING FOR THESE COMPOUNDS HAS BEEN WAIVED ON A STATEWIDE BASIS FOR BOTH GROUND AND SURFACE WATER SOURCES.**				
Endothall		100					
Glyphosate		700					
2,3,7,8-TCDD (Dioxin)		$3X10^{-8}$					

Compound: Unregulated	Result µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aldicarb	ND	0.3	531.1	N/A	09/20/96	*
Aldicarb sulfoxide	ND	0.5	531.1	N/A	09/20/96	*
Aldicarb sulfone	ND	0.5	531.1	N/A	09/20/96	*
Carbaryl	ND	0.7	531.1	N/A	09/20/96	*
3-Hydroxycarbofuran	ND	0.4	531.1	N/A	09/20/96	*
Methomyl	ND	1.1	531.1	N/A	09/20/96	*
Dicamba	ND	0.08	515.1	09/19/96	09/28/96	
Aldrin	ND	0.08	508	09/16/96	09/26/96	
Butachlor	ND	0.3	507	09/16/96	09/29/96	
Dieldrin	ND	0.01	508	09/16/96	09/26/96	
Metolachlor	ND	0.7	507	09/16/96	09/29/96	
Metribuzin	ND	0.1	507	09/16/96	09/29/96	
Propachlor	ND	0.14	508	09/16/96	09/26/96	

The QA/QC required matrix spike sample information is on file at our office.

***Monitoring for these two compounds has been waived on a statewide basis for SURFACE WATER SOURCES only. Unless specifically requested by DEP, SURFACE WATER SOURCES do not have to monitor for these compounds.**

****If you have been specifically instructed by DEP to monitor for these compounds, please report them on a separate sheet.**

Laboratory Director Signature and Date Stephen Knollmeyer 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention WQA- within 30 days of receipt of results and within 10 days after the end of the reporting period.

P/DWS USE ONLY: PLEASE INITIAL AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

. PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-F	09/11/96	Collins

9. Is the Source Treated? No 10. Was the Sample Collected After Treatment? No
11. Manifolded [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9609172-01
Sub. Lab Name: Sub. Lab Cert.#:
Composited [If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	09/18/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	09/18/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	09/18/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	09/18/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	09/18/96
Trichloroethylene	ND	5.0	0.5	524.2	09/18/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	09/18/96
Vinyl Chloride	ND	2.0	0.5	524.2	09/18/96
Monochlorobenzene	ND	100.0	0.5	524.2	09/18/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	09/18/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	09/18/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	09/18/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	09/18/96
Ethylbenzene	ND	700.0	0.5	524.2	09/18/96
	ND	100.0	0.5	524.2	09/18/96
Tetrachloroethylene	ND	5.0	0.5	524.2	09/18/96
Toluene	ND	1000.0	0.5	524.2	09/18/96
Xylenes (total)	ND	10000.0	0.5	524.2	09/18/96
Dichloromethane	ND	5.0	0.5	524.2	09/18/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	09/18/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	09/18/96
Fluorotrichloromethane	ND	0.5	524.2	09/18/96
Dichlorodifluoromethane	ND	0.5	524.2	09/18/96
Bromochloromethane	ND	0.5	524.2	09/18/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	90	80-120
1,2-dichlorobenzene-d_4	94	80-120

**Outside QC limits.

The QA/QC required matrix spike sample information is on file at our office.

ND

Laboratory Director Signature and Date: Stephen Kwallace 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

ted:	Disapproved:	Data entered into WQTS:
Comments:		

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	2.0	0.5	524.2	09/18/96
Bromodichloromethane	ND	0.5	524.2	09/18/96
Chlorodibromomethane	ND	0.5	524.2	09/18/96
Bromoform	ND	0.5	524.2	09/18/96
m-Dichlorobenzene	ND	0.5	524.2	09/18/96
Dibromomethane	ND	0.5	524.2	09/18/96
1,1-Dichloropropene	ND	0.5	524.2	09/18/96
1,1-Dichloroethane	ND	0.5	524.2	09/18/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
1,3-Dichloropropane	ND	0.5	524.2	09/18/96
Chloromethane	ND	0.5	524.2	09/18/96
Bromomethane	ND	0.5	524.2	09/18/96
1,2,3-Trichloropropane	ND	0.5	524.2	09/18/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
Chloroethane	ND	0.5	524.2	09/18/96
2,2-Dichloropropane	ND	0.5	524.2	09/18/96
o-Chlorotoluene	ND	0.5	524.2	09/18/96
p-Chlorotoluene	ND	0.5	524.2	09/18/96
Bromobenzene	ND	0.5	524.2	09/18/96
1,3-Dichloropropene	ND	0.5	524.2	09/18/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	09/18/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	09/18/96
n-Propylbenzene	ND	0.5	524.2	09/18/96
n-Butylbenzene	ND	0.5	524.2	09/18/96
Napthalene	ND	0.5	524.2	09/18/96
Hexachlorobutadiene	ND	0.5	524.2	09/18/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	09/18/96
p-Isopropyltoluene	ND	0.5	524.2	09/18/96
Isopropylbenzene	ND	0.5	524.2	09/18/96
Tert-butylbenzene	ND	0.5	524.2	09/18/96

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

I. PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	09/11/96	Collins

9. Is the Source Treated? No 10. Was the Sample Collected After Treatment? No
11. Manifolded [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9609172-02
Sub. Lab Name: Sub. Lab Cert.#:
Composited [If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	09/18/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	09/18/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	09/18/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	09/18/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	09/18/96
Trichloroethylene	ND	5.0	0.5	524.2	09/18/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	09/18/96
Vinyl Chloride	ND	2.0	0.5	524.2	09/18/96
Monochlorobenzene	ND	100.0	0.5	524.2	09/18/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	09/18/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	09/18/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	09/18/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	09/18/96
Ethylbenzene	ND	700.0	0.5	524.2	09/18/96
	ND	100.0	0.5	524.2	09/18/96
Tetrachloroethylene	ND	5.0	0.5	524.2	09/18/96
Toluene	ND	1000.0	0.5	524.2	09/18/96
Xylenes (total)	ND	10000.0	0.5	524.2	09/18/96
Dichloromethane	ND	5.0	0.5	524.2	09/18/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	09/18/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	2.1	0.5	524.2	09/18/96
Bromodichloromethane	ND	0.5	524.2	09/18/96
Chlorodibromomethane	ND	0.5	524.2	09/18/96
Bromoform	ND	0.5	524.2	09/18/96
m-Dichlorobenzene	ND	0.5	524.2	09/18/96
Dibromomethane	ND	0.5	524.2	09/18/96
1,1-Dichloropropene	ND	0.5	524.2	09/18/96
1,1-Dichloroethane	ND	0.5	524.2	09/18/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
1,3-Dichloropropane	ND	0.5	524.2	09/18/96
Chloromethane	ND	0.5	524.2	09/18/96
Bromomethane	ND	0.5	524.2	09/18/96
1,2,3-Trichloropropane	ND	0.5	524.2	09/18/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	09/18/96
Chloroethane	ND	0.5	524.2	09/18/96
2,2-Dichloropropane	ND	0.5	524.2	09/18/96
o-Chlorotoluene	ND	0.5	524.2	09/18/96
p-Chlorotoluene	ND	0.5	524.2	09/18/96
Bromobenzene	ND	0.5	524.2	09/18/96
1,3-Dichloropropene	ND	0.5	524.2	09/18/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	09/18/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	09/18/96
n-Propylbenzene	ND	0.5	524.2	09/18/96
n-Butylbenzene	ND	0.5	524.2	09/18/96
Napthalene	ND	0.5	524.2	09/18/96
Hexachlorobutadiene	ND	0.5	524.2	09/18/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	09/18/96
p-Isopropyltoluene	ND	0.5	524.2	09/18/96
Isopropylbenzene	ND	0.5	524.2	09/18/96
Tert-butylbenzene	ND	0.5	524.2	09/18/96

(FORM #7.2)

PWS ID No: INA Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	09/18/96
Fluorotrichloromethane	ND	0.5	524.2	09/18/96
Dichlorodifluoromethane	ND	0.5	524.2	09/18/96
Bromochloromethane	ND	0.5	524.2	09/18/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	89	80-120
1,2-dichlorobenzene-d_4	93	80-120

The QA/QC required matrix spike sample information is on file at our office.

ND

Laboratory Director Signature and Date: Stephen Kwolek 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

›ted:	Disapproved:	Data entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY N

NITRATE REPORT
(FORM #1B.1)

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-911-F	9/11/96	Collins
B: INA	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Is the Sample Chlorinated? No
11. Was the Sample Collected after Treatment? No
12. Manifolded: [ ] If applicable, list the connected sources:

13. Routine [] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	0.026	0.026		
MCL (mg/L)	10	10		
Detection Limit (mg/L)	0.02	0.02		
Analytical Method	SM 4500-NO3-F	SM 4500-NO3-F		
Date Analyzed*	09/12/96	09/12/96		
Lab Sample ID#	9609172-01	9609172-02		

* Holding time for chlorinated samples is 48 hours. Holding time for non-chlorinated samples is 14 days.

Laboratory Director Signature and Date Stephen Kaselburg 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

ɔted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY NI

NITRITE REPORT
(FORM #1C.1)

PWS INFORMATION:

1. PWS ID# INA 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	01-TEST-911-F	9/11/96	Collins
B: INA	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	<0.01	<0.01		
MCL (mg/L)	1.0	1.0	1.0	1.0
Detection Limit (mg/L)	0.01	0.01		
Analytical Method	SM 4500-NO3-F	SM 4500-NO3-F		
Date Analyzed*	09/12/96	09/12/96		
Lab Sample ID#	9609172-02	9609172-02		

Laboratory Director Signature and Date Stephen Kwolhuys 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ 2. City/Town: Bourne

PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

DEP Source Code/Location ID: INA 6. Sample Location: 01-TEST-911-F 7. Date Collected: 9/11/96 8. Collected by: Collins

Is the Source Treated? No 10. Was the Sample Collected after Treatment? No

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) N Lab Sample ID#: 9609172

(use symbols to relate each analyte to a specific lab)

Sub. Name: Cert.#: Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9609172	<0.005	0.05	0.005	200.7	09/17/96	
Barium	9609172	<0.01	2.0	0.01	200.7	09/18/96	
Cadmium	9609172	<0.001	0.005	0.001	200.7	09/17/96	
Chromium	9609172	<0.005	0.1	0.005	200.7	09/17/96	
Fluoride*	9609172	0.12	4.0	0.1	SM 4500-F-B	09/25/96	
Mercury	9609172	<0.0002	0.002	0.0002	SM 3112B	09/14/96	
Selenium	9609172	<0.002	0.05	0.002	SM 3113B	09/26/96	
Sodium	9609172	6.9	none	1.0	200.7	09/20/96	
Antimony	9609172	<0.003	0.006	0.003	SM 3113B	09/24/96	
Beryllium	9609172	<0.0003	0.004	0.0003	SM 3113B	09/26/96	
Nickel	9609172	<0.001	0.1	0.001	SM 3113B	09/27/96	
Thallium	9609172	<0.001	0.002	0.001	200.9	09/20/96	
Cyanide	9609172	<0.01	0.2	0.01	SM 4500-CN-C	09/18/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609172	<5	---	5	SM 4500-S04-E	09/18/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Knollmeyer 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS, 1 Winter Street, 9th Floor, Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne

PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	9/11/96	Collins

Is the Source Treated? No 10. Was the Sample Collected after Treatment? No

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) N Lab Sample ID#: 9609172

(use symbols to relate each analyte to a specific lab)

Sub. Name: Cert.#: Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9609172	<0.005	0.05	0.005	200.7	09/17/96	
Barium	9609172	<0.01	2.0	0.01	200.7	09/18/96	
Cadmium	9609172	<0.001	0.005	0.001	200.7	09/17/96	
Chromium	9609172	<0.005	0.1	0.005	200.7	09/17/96	
Fluoride*	9609172	0.11	4.0	0.1	SM 4500-F-B	09/25/96	
Mercury	9609172	<0.0002	0.002	0.0002	SM 3112B	09/14/96	
Selenium	9609172	<0.002	0.05	0.002	SM 3113B	09/26/96	
Sodium	9609172	6.9	none	1.0	200.7	09/20/96	
Antimony	9609172	<0.003	0.006	0.003	SM 3113B	09/24/96	
Beryllium	9609172	<0.0003	0.004	0.0003	SM 3113B	09/26/96	
Nickel	9609172	0.0020	0.1	0.001	SM 3113B	09/27/96	
Thallium	9609172	<0.001	0.002	0.001	200.9	09/20/96	
Cyanide	9609172	<0.01	0.2	0.01	SM 4500-CN-C	09/18/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9609172	5.0	---	5	SM 4500-S04-E	09/18/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date Stephen Kneeland 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	01-TEST-911-D	9/11/96	Collins
B:	01-TEST-911-D	9/11/96	Collins
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: The well was chlorinated and flushed prior to sampling.

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: ____ Cert#: ____ Lab Symbol: ____
Notes: ____

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Lab Sample ID	---------	--------	-------	9609172 -01	9609172 -02			----
Turbidity (NTU)	180.1	0.05	09/12/96	0.30	0.13			
TDS	160.1	5	09/18/96	36	33			
Color (color units)	SM2120B	5	09/12/96	<5	<5			----
Odor (TON)	140.1	1	09/12/96	1	1			----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	09/24/96	5.0	4.0			
Hardness (CaCO3)	130.2	2	09/25/96	21	21			----
Calcium (Ca)	200.7	0.2	09/17/96	1.8	1.8			
Magnesium (Mg)	200.7	1	09/17/96	1.0	1.1			----
Aluminum (Al)	200.7	0.05	09/18/96	<0.05	<0.05			----
Potassium (K)	258.1	0.05	09/19/96	0.57	0.66			----
Iron (Fe)	200.7	0.05	09/18/96	<0.05	<0.05			----
ganese (Mn)	200.7	0.01	09/17/96	<0.01	<0.01			----
fate (SO4)	SM 4500-SO4-	2	09/18/96	<5	5.0			

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	09/19/96	8.0	3.0			----
Silver (Ag)	272.1	0.01	09/18/96	<0.01	<0.01			
Copper (Cu)	220.1	0.01	09/17/96	<0.01	<0.01			
Zinc (Zn)	200.7	0.05	-----	NR	NR			----

Laboratory Director Signature and Date Stephen Kyrallos 10/17/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
ments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

PWS INFORMATION:

PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	9/11/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-02

Sub. Lab Name: Core Laboratories Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes: Gamma analysis was analyzed on 09/24/96. Results as follows: Cesium 134 was ND at 4.7 pCi/L.

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	5.2	15 pCi/L	2.4	900.0	09/18/96
Radium - 226*	ND	5 pCi/L	0.7	903.1	10/03/96
Radium - 228*	ND		1.7	904.0	10/03/96
Radon **	629	----	172		09/13/96
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	10.4	4 mrems/yr	3.4	900.0	09/18/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	207	906.0	09/25/96
Strontium - 90	ND	8 pCi/L	1.7	905.0	09/20/96

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).
** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date Stephen Kavalkovich 10/17/96

Attention:
Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

pted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:

PWS ID#: INA _ _ _ _ _ _ 2. City/Town: Bourne

PWS Name: MMR 4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-F	09/11/96	Collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes

10. Manifolded (Multiple) [ ] If applicable, list the connected sources:

11. Routine [ ] Special [x (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9609172-01

(Use symbols to relate each analyte to a specific lab):

Sub. Name: Broward Testing Laboratories,Inc. # M-FL517 Lab Symbol: *

Sub. Name: # Lab Symbol:

Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

ompound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
arbofuran	ND	40	0.7	531.1	N/A	09/20/96	*
xamyl (Vydate)	ND	200	0.9	531.1	N/A	09/20/96	*
-D	ND	70	1	515.1	09/19/96	09/28/96	
TP (Silvex)	ND	50	0.7	515.1	09/19/96	09/28/96	
alapon	ND	200	1	515.1	09/19/96	09/28/96	
inoseb	ND	7	0.5	515.1	09/19/96	09/28/96	
icloram	ND	500	1	515.1	09/19/96	09/28/96	
achlor	ND	2	0.7	507	09/16/96	09/29/96	
razine	ND	3	0.3	507	09/16/96	09/29/96	
hlordane	ND	2	0.18	508	09/16/96	09/26/96	
ndrin	ND	2	0.13	508	09/16/96	09/26/96	
eptachlor	ND	0.4	0.04	508	09/16/96	09/26/96	
eptachlor epoxide	ND	0.2	0.05	508	09/16/96	09/26/96	
indane	ND	0.2	0.03	508	09/16/96	09/26/96	
ethoxychlor	ND	40	0.1	508	09/16/96	09/26/96	
CB Aroclor 1016	ND	---	0.48	508	09/16/96	09/26/96	
CB Aroclor 1221	ND	---	0.2	508	09/16/96	09/26/96	
CB Aroclor 1232	ND	---	0.08	508	09/16/96	09/26/96	
roclor 1242	ND	---	0.15	508	09/16/96	09/26/96	
roclor 1248	ND	---	0.19	508	09/16/96	09/26/96	
CB Aroclor 1254	ND	---	0.1	508	09/16/96	09/26/96	

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

I. PWS INFORMATION:

PWS ID#: INA — 2. City/Town: Bourne

PWS Name: MMR — 4. PWS Class (circle one): COM NTNC NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	01-TEST-911-D	09/11/96	Collins

9. Is the Source Treated? Yes — 10. Was the Sample Collected after Treatment? Yes

10. Manifolded (Multiple) [ ] If applicable, list the connected sources:

11. Routine [ ] Special [x (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical — Lab Cert.#: MA-014

Subcontracted? (Y,N) Y — Lab Sample ID#: 9609172-02

(Use symbols to relate each analyte to a specific lab):

Sub. Name: Broward Testing Laboratories, Inc. — # M-FL517 — Lab Symbol: *

Sub. Name: — # — Lab Symbol:

Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes: Method 504.1 only requested

Compound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Carbofuran	ND	40	0.7	531.1	N/A	09/20/96	*
Oxamyl (Vydate)	ND	200	0.9	531.1	N/A	09/20/96	*
4-D	ND	70	1	515.1	09/19/96	09/28/96	
-TP (Silvex)	ND	50	0.7	515.1	09/19/96	09/28/96	
Dalapon	ND	200	1	515.1	09/19/96	09/28/96	
Dinoseb	ND	7	0.5	515.1	09/19/96	09/28/96	
Picloram	ND	500	1	515.1	09/19/96	09/28/96	
Alachlor	ND	2	0.7	507	09/16/96	09/29/96	
Atrazine	ND	3	0.3	507	09/16/96	09/29/96	
Chlordane	ND	2	0.18	508	09/16/96	09/26/96	
Endrin	ND	2	0.13	508	09/16/96	09/26/96	
Heptachlor	ND	0.4	0.04	508	09/16/96	09/26/96	
Heptachlor epoxide	ND	0.2	0.05	508	09/16/96	09/26/96	
Lindane	ND	0.2	0.03	508	09/16/96	09/26/96	
Methoxychlor	ND	40	0.1	508	09/16/96	09/26/96	
PCB Aroclor 1016	ND	---	0.48	508	09/16/96	09/26/96	
PCB Aroclor 1221	ND	---	0.2	508	09/16/96	09/26/96	
PCB Aroclor 1232	ND	---	0.08	508	09/16/96	09/26/96	
PCB Aroclor 1242	ND	---	0.15	508	09/16/96	09/26/96	
Aroclor 1248	ND	---	0.19	508	09/16/96	09/26/96	
PCB Aroclor 1254	ND	---	0.1	508	09/16/96	09/26/96	

PWS ID No: _____ (FORM #9.2) Town: Bourne **SOC**

Compound: Regulated (continued)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
PCB Aroclor 1260	ND	---	0.17	508	09/16/96	09/26/96	
(decachlorobiphenyl)	ND	0.5		508A	09/16/96	09/26/96	
Pentachlorophenol	ND	1	0.3	515.1	09/19/96	09/28/96	
Toxaphene	ND	3	1	508	09/16/96	09/26/96	
Benzo(a)pyrene	ND	0.2	0.1	515.1	09/19/96	09/28/96	
Di(2-ethylhexyl)adipate	ND	400	0.6	525.5	09/13/96	09/20/96	
Di(2-ethylhexyl)phthalates	ND	6	3	525.2	09/13/96	09/20/96	
Hexachlorobenzene	ND	1	0.09	508	09/16/96	09/26/96	
Hexachlorocyclopentadiene	ND	50	0.05	508/525	09/16/96	09/26/96	
Simazine	ND	4	2	507	09/16/96	09/29/96	
Dibromochloropropane (DBCP)*	ND	0.2	0.01	504.1	09/24/96	09/24/96	
Ethylene dibromide (EDB)*	ND	0.02	0.01	504.1	09/24/96	09/24/96	
Diquat		20	**MONITORING FOR THESE COMPOUNDS HAS BEEN WAIVED ON A STATEWIDE BASIS FOR BOTH GROUND AND SURFACE WATER SOURCES.****				
Endothall		100					
Glyphosate		700					
2,3,7,8-TCDD (Dioxin)		$3X10^{-8}$					

Compound: Unregulated	Result µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aldicarb	ND	0.3	531.1	N/A	09/20/96	*
ldicarb sulfoxide	ND	0.5	531.1	N/A	09/20/96	*
Aldicarb sulfone	ND	0.5	531.1	N/A	09/20/96	*
Carbaryl	ND	0.7	531.1	N/A	09/20/96	*
3-Hydroxycarbofuran	ND	0.4	531.1	N/A	09/20/96	*
Methomyl	ND	1.1	531.1	N/A	09/20/96	*
Dicamba	ND	0.08	515.1	09/19/96	09/28/96	
Aldrin	ND	0.08	508	09/16/96	09/26/96	
Butachlor	ND	0.3	507	09/16/96	09/29/96	
Dieldrin	ND	0.01	508	09/16/96	09/26/96	
Metolachlor	ND	0.7	507	09/16/96	09/29/96	
Metribuzin	ND	0.1	507	09/16/96	09/29/96	
Propachlor	ND	0.14	508	09/16/96	09/26/96	

The QA/QC required matrix spike sample information is on file at our office.

Monitoring for these two compounds has been waived on a statewide basis for SURFACE WATER SOURCES only. Unless specifically requested by DEP, SURFACE WATER SOURCES do not have to monitor for these compounds.

***If you have been specifically instructed by DEP to monitor for these compounds, please report them on a separate sheet.**

Laboratory Director Signature and Date Stephen Knollmeyer 10/17/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention WQA-

within 30 days of receipt of results and within 10 days after the end of the reporting period.

DWS USE ONLY: PLEASE INITIAL AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

AD02721

MMR Long Range Water Supply Project Laboratory Analytical Results for Site 2

A) Deep Observation Well (MW-3) aqueous sample results. [6/11/96]

B) Test Well sampling results, first day. [8/14/96]

C) Test Well sampling results, middle day. [8/16/96]

D) Test Well sampling results, last day. [8/19/96]

Deep Observation Well (MW-3) aqueous sample results [6/11/96]

(MW-3) aqueous sample results

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: WATER QUALITY ANALYSIS
Project # 400096_4_50

Workorder # 9606151

Authorized Signature

Stephen L. Knollmeyer 7/12/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID: INA 6. Sample Location: Site 2 - MW3 7. Date Collected: 6/11/96 8. Collected by: Collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) N Lab Sample ID#: 9606151

(use symbols to relate each analyte to a specific lab)

Sub. Name: Cert.#: Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9606151	<0.005	0.05	0.005	206.2	06/14/96	
Barium	9606151	<0.01	2.0	0.02	200.7	06/14/96	
Cadmium	9606151	<0.001	0.005	0.001	213.2	06/14/96	
Chromium	9606151	0.013	0.1	0.005	218.2	06/14/96	
Fluoride*	9606151	<0.1	4.0	0.1	340.2	06/14/96	
Mercury	9606151	0.00065	0.002	0.0002	245.1	06/13/96	
Selenium	9606151	<0.002	0.05	0.002	270.2	06/14/96	
Sodium	9606151	8.1	none	1.0	273.1	06/14/96	
Antimony	9606151	<0.003	0.006	0.003	204.2	06/14/96	
Beryllium	9606151	<0.0003	0.004	0.0003	210.2	06/15/96	
Nickel	9606151	0.0026	0.1	0.001	249.2	06/15/96	
Thallium	9606151	<0.001	0.002	0.001	279.2	06/14/96	
Cyanide	9606151	<0.01	0.2	0.01	335.2	06/14/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9606151	4.1	---	2	375.4	06/12/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/l

Laboratory Director Signature and Date Stephen Kowalczyk 7/12/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street, 9th Floor, Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

cepted:	Disapproved:	Data Entered into WQTS:
mments:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

INFORMATION:

1. ID#: INA _____ 2. City/Town: Bourne

PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
INA	Site 2 - MW3	6/11/96	collins

9. Is the Source Treated? Yes 10. Was the Sample Collected after Treatment? Yes

Manifolded? [ ] If applicable, list the connected sources:

Notes: Exploritory Well

I LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)

Sub. Lab Name: _____ Cert#: _____ Lab Symbol: _____

Notes: _____

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L A	B	C	D	Lab Symbl
Lab Sample ID	---------	--------	-------	9606151				----
Turbidity (NTU)	180.1	0.05	06/12/96	8.5				
TDS	160.1	5	06/12/96	100				
Color (color units)	SM2120B	5	06/12/96	10				----
Odor (TON)	140.1	1	06/12/96	1				----
pH	150.1	1		NR				
Alkalinity-Total (CaCO3)	310.1	1	06/12/96	22				
Hardness (CaCO3)	130.2	2	06/17/96	39				----
Calcium (Ca)	200.7	0.2	06/14/96	7.6				
Magnesium (Mg)	200.7	1	06/14/96	1.2				----
Aluminum (Al)	200.7	0.05	06/15/96	0.38				----
Potassium (K)	258.1	0.05	06/14/96	<1				----
Iron (Fe)	200.7	0.05	06/15/96	0.57				----
Manganese (Mn)	200.7	0.01	06/14/96	0.020				----
Sulfate (SO4)	375.4	2	06/12/96	4.1				

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

PWS INFORMATION:

1. PWS ID# INA 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	Site 2 - MW3	6/11/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: Exploritory Well

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9606151

Sub. Lab Name: Core Laboratories Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes:

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	2.1	15 pCi/L	0.8	900.0	06/17/96
Radium - 226*	ND	5 pCi/L	0.7	903.1	06/20/96
Radium - 228*	ND		2.9	904.0	06/19/96
Radon **	NR	----			
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	3.4	4 mrems/yr	1.4	900.0	06/17/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	263	906.0	06/13/96
Strontium - 90	ND	8 pCi/L	1.2	905.0	06/19/96

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).
** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date Stephen Kowalczyk 7/12/96

Attention:
Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

Commonwealth Analytical

Workorder #9606151

boratory Results Prepared For :
STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER

Facility : BOSTON, MA
Contact : CFR

aboratory Results Prepared By :
Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : WATER QUALITY ANALYSIS
Taken : 06/11/96
Transported : TJS-CA
Type : GROUNDWATER
PO # : PS-027131

7/9/96 CFR
Certified by

Workorder Comments

emistry analyses were performed by Core Laboratories,
, WY. Nitroaromatics were performed by Lockheed
nalytical Services, Las Vegas, NV. The Aluminum result is
eported as an estimate due to QC criteria not being met.

Commonwealth Analytical

Workorder #9606151

Inorganic Results for 02-MW3-155-F

Matrix: GROUNDWATER — Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
1B	ALKALINITY	22	mg/L	06/12/96	JS
1D	AMMONIA NITROGEN as N	<2	N, mg/L	06/12/96	SLS
1B	CHLORIDE	24	mg/L	06/13/96	SLS
1B	COLOR-APPARENT	10	apparent color	06/12/96	DF
1E	CYANIDE, TOTAL	<0.01	mg/L	06/14/96	JS
1C	FLUORIDE	<0.1	mg/L	06/14/96	DF
1D	HARDNESS	39	mg/L	06/17/96	SLS
1B	ODOR	1	TON	06/12/96	DF
1B	SPECIFIC CONDUCTANCE	96	umhos/cm @25	06/13/96	DF
1B	SULFATE	4.1	mg/L	06/12/96	SLS
1B	TOTAL DISSOLVED SOLIDS	100	mg/L	06/12/96	DF
1B	TURBIDITY	8.5	NTU	06/12/96	DF

Biology Results for 02-MW3-155-F

Matrix:GROUNDWATER — Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01A	TOTAL COLIFORM BACTERIA	0	colonies/100ml	06/12/96	PS

Metal Results for 02-MW3-155-F

Matrix:GROUNDWATER — Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01F	ALUMINUM by ICP	*0.38	mg/L	06/15/96	BG
01F	ANTIMONY by ICP	<0.003	mg/L	06/14/96	BG
01F	ARSENIC by furnace AA	<0.005	mg/L	06/14/96	JLZ
01F	BARIUM by ICP	<0.01	mg/L	06/14/96	BG
01F	BERYLLIUM by furnace AA	<0.0003	mg/L	06/15/96	BG
01F	CADMIUM by ICP	<0.001	mg/L	06/14/96	BG
01F	CALCIUM by ICP	7.6	mg/L	06/14/96	JLZ
01F	CHROMIUM by ICP	0.013	mg/L	06/14/96	BG
01F	COPPER by ICP	<0.02	mg/L	06/14/96	BG
01F	IRON by ICP	0.57	mg/L	06/15/96	BG
01F	LEAD by furnace AA	<0.001	mg/L	06/13/96	JLZ
01F	MAGNESIUM by ICP	1.2	mg/L	06/14/96	JLZ
01F	MANGANESE by ICP	0.020	mg/L	06/14/96	BG
01F	MERCURY by cold vapor AA	0.00065	mg/L	06/13/96	TM
01F	NICKEL by furnace AA	0.0026	mg/L	06/15/96	BG
01F	POTASSIUM by ICP	<1	mg/L	06/14/96	JLZ
01F	SELENIUM by furnace AA	<0.002	mg/L	06/14/96	BG
01F	SILVER by flame AA	<0.01	mg/L	06/15/96	BG
01F	SODIUM by ICP	8.1	mg/L	06/14/96	JLZ
01F	THALLIUM by furnace AA	<0.001	mg/L	06/14/96	BG

Commonwealth Analytical

Workorder #9606151

Subcontracted Results for 02-MW3-155-F

Matrix:GROUNDWATER

Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01J	SUBCONTRACTED TEST	*	*		
01K	SUBCONTRACTED TEST	*	*		
01L	SUBCONTRACTED TEST	*	*		

Workorder Text

Radionuclide Analyses

Sample ID: MW3

PARAMETER	RESULTS(pCi)	LOWER LEVEL OF DETECTION	DATE ANALYZED
Gross Alpha (1)	2.1 (+-0.7)	0.8	06/17/96
Gross Beta (1)	3.4 (+-0.9)	1.4	06/17/96
Gross Gamma (2)	ND	97.6	06/17/96
Radium 226 (3)	ND	0.7	06/20/96
Radium 228 (4)	ND	2.9	06/19/96
Strontium 90 (5)	0.3 (+-0.5)	1.2	06/19/96
Tritium (6)	ND	263	06/13/96

Nitroaromatics (7)	RESULTS ug/L	PRACTICAL QUANT. LIMIT	DATE ANALYZED
1,3-Dinitrobenzene	ND	0.30	06/18/96
HMX	ND	1.0	06/18/96
Nitrobenzene	ND	0.50	06/18/96
2-Nitrotoluene	ND	0.25	06/18/96
3-Nitrotoluene	ND	0.25	06/18/96
4-Nitrotoluene	ND	0.25	06/18/96
RDX	ND	0.85	06/18/96
Tetryl	ND	1.0	06/18/96
1,3,5-Trinitrobenzene	ND	0.45	06/18/96
2,4,6-Trinitrotoluene	0.27	0.26	06/18/96
2-AM-4, 6-DNT	ND	0.26	06/18/96
4-Am-2, 6-DNT	ND	0.26	06/18/96
2,6-Dinitrotoluene	ND	0.25	06/18/96
2,4-Dinitrotoluene	ND	0.26	06/18/96

Commonwealth Analytical

Workorder #9606151

Laboratory Results Prepared For :
STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER
Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :
Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : WATER QUALITY ANALYSIS
Taken : 06/11/96
Transported : TJS-CA
Type : GROUNDWATER
PO # : PS-027131

7/9/96 CFR
Certified by

Workorder Comments

iochemistry analyses were performed by Core Laboratories, per, WY. Nitroaromatics were performed by Lockheed Analytical Services, Las Vegas, NV. The Aluminum result is reported as an estimate due to QC criteria not being met.

Inorganic Results for 02-MW3-155-F

Matrix:GROUNDWATER — Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	22	mg/L	06/12/96	JS
01D	AMMONIA NITROGEN as N	<2	N, mg/L	06/12/96	SLS
01B	CHLORIDE	24	mg/L	06/13/96	SLS
01B	COLOR-APPARENT	10	apparent color	06/12/96	DF
01E	CYANIDE, TOTAL	<0.01	mg/L	06/14/96	JS
01C	FLUORIDE	<0.1	mg/L	06/14/96	DF
01D	HARDNESS	39	mg/L	06/17/96	SLS
01B	ODOR	1	TON	06/12/96	DF
01B	SPECIFIC CONDUCTANCE	96	umhos/cm @25	06/13/96	DF
01B	SULFATE	4.1	mg/L	06/12/96	SLS
01B	TOTAL DISSOLVED SOLIDS	100	mg/L	06/12/96	DF
01B	TURBIDITY	8.5	NTU	06/12/96	DF

Biology Results for 02-MW3-155-F

Matrix:GROUNDWATER — Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01A	TOTAL COLIFORM BACTERIA	0	colonies/100ml	06/12/96	PS

Metal Results for 02-MW3-155-F

Matrix:GROUNDWATER — Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01F	ALUMINUM by ICP	*0.38	mg/L	06/15/96	BG
01F	ANTIMONY by ICP	<0.003	mg/L	06/14/96	BG
01F	ARSENIC by furnace AA	<0.005	mg/L	06/14/96	JLZ
01F	BARIUM by ICP	<0.01	mg/L	06/14/96	BG
01F	BERYLLIUM by furnace AA	<0.0003	mg/L	06/15/96	BG
01F	CADMIUM by ICP	<0.001	mg/L	06/14/96	BG
01F	CALCIUM by ICP	7.6	mg/L	06/14/96	JLZ
01F	CHROMIUM by ICP	0.013	mg/L	06/14/96	BG
01F	COPPER by ICP	<0.02	mg/L	06/14/96	BG
01F	IRON by ICP	0.57	mg/L	06/15/96	BG
01F	LEAD by furnace AA	<0.001	mg/L	06/13/96	JLZ
01F	MAGNESIUM by ICP	1.2	mg/L	06/14/96	JLZ
01F	MANGANESE by ICP	0.020	mg/L	06/14/96	BG
01F	MERCURY by cold vapor AA	0.00065	mg/L	06/13/96	TM
01F	NICKEL by furnace AA	0.0026	mg/L	06/15/96	BG
01F	POTASSIUM by ICP	<1	mg/L	06/14/96	JLZ
01F	SELENIUM by furnace AA	<0.002	mg/L	06/14/96	BG
01F	SILVER by flame AA	<0.01	mg/L	06/15/96	BG
01F	SODIUM by ICP	8.1	mg/L	06/14/96	JLZ
01F	THALLIUM by furnace AA	<0.001	mg/L	06/14/96	BG

Commonwealth Analytical

Workorder #9606151

Subcontracted Results for 02-MW3-155-F

Matrix:GROUNDWATER

Collected on 06/11/96 16:00:00

	Analyte	Result	Units	Test Date	Analyst
01J	SUBCONTRACTED TEST	*	*		
01K	SUBCONTRACTED TEST	*	*		
01L	SUBCONTRACTED TEST	*	*		

Workorder Text

Radionuclide Analyses

Sample ID: MW3

PARAMETER	RESULTS(pCi)	LOWER LEVEL OF DETECTION	DATE ANALYZED
Gross Alpha (1)	2.1 (+-0.7)	0.8	06/17/96
Gross Beta (1)	3.4 (+-0.9)	1.4	06/17/96
Gross Gamma (2)	ND	97.6	06/17/96
Radium 226 (3)	ND	0.7	06/20/96
Radium 228 (4)	ND	2.9	06/19/96
Strontium 90 (5)	0.3 (+-0.5)	1.2	06/19/96
Tritium (6)	ND	263	06/13/96

Nitroaromatics (7)	RESULTS ug/L	PRACTICAL QUANT. LIMIT	DATE ANALYZED
1,3-Dinitrobenzene	ND	0.30	06/18/96
HMX	ND	1.0	06/18/96
Nitrobenzene	ND	0.50	06/18/96
2-Nitrotoluene	ND	0.25	06/18/96
3-Nitrotoluene	ND	0.25	06/18/96
4-Nitrotoluene	ND	0.25	06/18/96
RDX	ND	0.85	06/18/96
Tetryl	ND	1.0	06/18/96
1,3,5-Trinitrobenzene	ND	0.45	06/18/96
2,4,6-Trinitrotoluene	0.27	0.26	06/18/96
2-AM-4, 6-DNT	ND	0.26	06/18/96
4-Am-2, 6-DNT	ND	0.26	06/18/96
2,6-Dinitrotoluene	ND	0.25	06/18/96
2,4-Dinitrotoluene	ND	0.26	06/18/96

Commonwealth Analytical

Workorder Text

Method References:

(1) EPA Method 900.0

(2) EPA Method 901.1

(3) EPA Method 903.1

(4) EPA Method 904.0

(5) EPA Method 905.0

(6) EPA Method 906.0

(7) 8330 Explosives_38019

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ANTIMONY by ICP
Method 6010, Test Methods for Evaluating Solid Waste, EPA-SW486, 1986 Edition

Test: ARSENIC by furnace AA
Method 206.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: BARIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: BERYLLIUM by furnace AA
Method 210.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CADMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: CHROMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: CYANIDE, TOTAL
Method 335.3, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: FLUORIDE
Method 340.2, Methods for Chemical Analysis of Water and Wastes,

Test Methodologies

Test: FLUORIDE
EPA-600/4-79-020, 1983 Revision.

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: LEAD by furnace AA
Method 239.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MERCURY by cold vapor AA
Method 245.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: NICKEL by furnace AA
Method 249.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ODOR
Method 140.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: POTASSIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SELENIUM by furnace AA
Method 270.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SILVER by flame AA
Method 272.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method 375.4, Methods for Chemical Analysis of Water and Wastes,

Test Methodologies

Test: SULFATE
EPA-600/4-79-020, 1983 Revision.

Test: THALLIUM by furnace AA
Method 279.2,Methods for Chemical Analysis of Water and Wastes,
EPA 600/4-79,1983 Revision.

Test: TOTAL COLIFORM BACTERIA
Method 909A, Standard Methods for the Examination of Water and Wastewater,
16TH Edition, 1985.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes,
EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste,
EPA-600/4-79-020, 1983 Revision.

COOLER RECEIPT FORM

Contractor Cooler: _____
MRD Cooler #: _____
Number of Coolers: _____

Workorder # 96 06151

Project Name: CTIS AFB - MMR

Date Received: 6/11/96

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: _____

by (print) _____ (sign) _____

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . YES (NO)
   If yes, enter carrier name & air bill number here: _____
2. Were custody seals on outside of cooler? . . . . . YES (NO)
   How many & where: _____ seal date: _____ seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? . . . . . NA YES NO
4. Did you screen samples for radioactivity using the Geiger Counter? . . . . . YES (NO)
5. Were custody papers sealed in a plastic bag & taped inside to the lid? . . . . . YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? . . . . . (YES) NO
7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO
8. Was project identifiable from custody papers? . . . . . (YES) NO
   If YES, enter project name at the top of this form.
9. If required, was enough ice used? ..... Type of ice: bag . . . . . (YES) NO
10. Have designated person initial here to acknowlege receipt of cooler: _____ (date) 6-11-96

B. LOG-IN PHASE: Date samples were logged-in: 6-12-96

by(print) Lia Haworth (sign) Lia Haworth

11. Describe type of packing in cooler: None
12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition? . . . . . (YES) NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . (YES) NO
15. Did all bottle labels agree with custody papers? . . . . . (YES) NO
16. Were correct containers used for the tests indicated? . . . . . (YES) NO
17. Were correct preservatives added to samples? . . . . . (YES) NO
18. Was a sufficient amount of sample sent for tests indicated? . . . . . (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ (YES) NO
20. Was the project manager called and status discussed? . . Yes. . . . . (YES) NO
    If YES, give details on the back of this form.
21. Who was called? CFR By whom? Lia Haworth (date) 6-12-96

J:\QC\DOC\COOL

Details discussed - Not all of the analysis listed on C.O.

(1/2) SIRZ MW-3

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-3215

Client: Stone Webster | Job#/Proj. Manager: 0510-02 | Workorder # 9606151 | COC #

Address: 245 Summer St Boston MA 02210 | Work ID:

Phone: 617/5091249 | Contact: | Collected by:

Shaded areas for office use

Requested Turn Around Time (✓): 24 hr. ☐ 1 wk. ☐ Other ☑ 5 day; 48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits? (✓): Yes ☐ No ☑ Specify:

Special QA/QC? (✓): Yes ☐ No ☑ Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)
1. VOCs 524
2. EDB 504
3. Metals - tot
4. Tot coliform
5. Turb, Alk etc.
6. Tot cyanide
7. Fluoride
8. NO_2/NO_3, NH_3
9. Nitroaromatics
10. Trium

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other ____	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
1G	02-MW3-155-F	GW	6-11-96 1600	✓		4	G				✓					—										
1H						4	G							✓		2										
1F						2	P		✓										3							
1A						1	P	✓																	4	
1B						2	P							✓										5		
1E						2	P					✓			12					6						
1C						2	P							✓	5											7
1D						1	P			✓					1										8	
1L						2	G							✓	5											9
1S		↓	↓	↓		1	G							✓	5											10

Samples in Refrig.

Relinquished by:	Date: 6-11-96	Time: 1645	Received by:	Date: 6-11-96	Time: 1645
Relinquished by:	Date: 6-12-96	Time: 8:00	Received by:	Date: 6-12-96	Time: 8:00
Relinquished by: RA	Date:	Time:	Received by:	Date:	Time:

Method of shipment: Via C/A

Laboratory: C/A

Cooler #: —

Temp. @ receipt: —

Preservation pH checked

By: RA Date: 6-12-96

(2/2) MW-3 Slk 2

Chain of C[illegible]ody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 010[illegible]
(413)572-3200 fax(413)572-3215

Client: [illegible] Job#/Proj. Manager: 0510

Address: SAIA Work ID:

Contact:

Phone: Collected by:

Workorder # 9606151 COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☐ Specify: 5

Special Detection Limits? (✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)
1. Radionuclides
2. 531
3. 524 VOCs
4. EDB 504

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other (Methanol)	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
01K	02-MW3-KS-F	GW	6-11-96 1600	✓		1	P		✓						1											1
01L	↓	↓	↓	✓		2	G						✓			2										
02A	trip blank	RW	6-5-96 1700	✓		2	G				✓					3										
02B	trip blank	↓	6-5-96 1700	✓		2	G							✓		4										

Samples in Refrig.

Relinquished by: [signature] Date: 6-11-96 Time: 1645
Received by: [signature] Date: 6-11-96 Time: 1645

Relinquished by: [signature] Date: 6-12-96 Time: 8:00
Received by: [signature] Date: 6-12-96 Time: 8:00

Relinquished by: R.H Date: Time:
Received by: 6-12-96 Date: Time:

Cooler #: —

Temp. @ receipt: —

Preservation pH checked

By: R.H Date: 6-12-96

Method of shipment: Via C/A

Laboratory: C/A

QUALITY ASSESSMENT REPORT
FOR
LABORATORY ANALYSES

CLIENT NAME: Stone & Webster

WORK ORDER #: 9606151

CommonwealthAnalytical

BLANK RESULTS SUMMARY

ORK ORDER NO. 9606151

.MPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	ALUMINUM	6/12/96	6/14/96			
LB	ANTIMONY	6/12/96	6/14/96			
LB	ARSENIC	6/12/96	6/14/96			
LB	BARIUM	6/12/96	6/14/96			
LB	BERYLLIUM	6/12/96	6/15/96			
LB	CADMIUM	6/12/96	6/14/96			
LB	CALCIUM	6/12/96	6/14/96			
	CHROMIUM	6/12/96	6/14/96			
LB	COPPER	6/12/96	6/14/96			
LB	IRON	6/12/96	6/15/96			
LB	LEAD	6/12/96	6/13/96			
LB	MERCURY	6/12/96	6/13/96			
LB	MAGNESIUM	6/12/96	6/14/96			

nments:

BLANK RESULTS SUMMARY

ORK ORDER NO. 9606151

MPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	MANGANESE	6/12/96	6/14/96	WATER	NONE	
LB	SODIUM	6/12/96	6/14/96	WATER	NONE	
LB	NICKEL	6/12/96	6/15/96	WATER	NONE	
LB	POTASSIUM	6/12/96	6/14/96	WATER	NONE	
LB	THALLIUM	6/12/96	6/14/96	WATER	NONE	
LB	SELENIUM	6/12/96	6/14/96	WATER	NONE	
LB	SILVER	6/12/96	6/15/96	WATER	NONE	
LB	SULFATE	6/12/96	6/12/96	WATER	NONE	
	TOTAL DISSOLVED SOLIDS	NONE	6/12/96	WATER	NONE	
LB	CHLORIDE	NONE	6/13/96	WATER	CHLORIDE	0.20mg/L
LB	FLUORIDE	6/14/96	6/14/96	WATER	NONE	
LB	HARDNESS	NONE	6/17/96	WATER	NONE	
LB	AMMONIA NITROGEN	6/12/96	6/12/96	WATER	NONE	
LB	CYANIDE	6/13/96	6/14/96	WATER	NONE	
LB	TOTAL COLIFORM BACTERIA	NONE	6/12/96	WATER	NONE	

mments: The methodology for Chloride analysis includes subtraction of the blank value.

MATRIX SPIKE /MATRIX SPIKE DUPLICATE RESULTS
METALS

ORK ORDER NO. 9606151

ATE COLLECTED: 06/11/96

AMPLE IDENTIFICATION: 02-MW3-155-F
AMPLE RESULT and SPIKE ADDED are in units of mg/L
RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE EXTRACTED	DATE ANALYZED	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD
ALUMINUM	6/12/96	6/14/96	0.38	0.1	109	0.17*	21*
ANTIMONY	6/12/96	6/14/96	<0.003	0.5	106	107	0
ARSENIC	6/12/96	6/14/96	<0.005	0.5	112	104	7
BARIUM	6/12/96	6/14/96	<0.01	0.5	96	97	0
BERYLLIUM	6/12/96	6/15/96	<0.0003	0.5	103	103	0
CADMIUM	6/12/96	6/14/96	<0.001	0.5	106	105	1
CIUM	6/12/96	6/14/96	7.6	20	100	106	2
CHROMIUM	6/12/96	6/14/96	0.013	1.0	96	97	0
COPPER	6/12/96	6/14/96	<0.02	1.0	97	101	4
IRON	6/12/96	6/15/96	0.57	0.1	76	28*	8
LEAD	6/12/96	6/13/96	<0.001	0.5	94	99	5
MERCURY	6/12/96	6/13/96	0.00065	0.05	106	103	3
MAGNESIUM	6/12/96	6/14/96	1.2	20	97	107	2

(*) outside QC limits

QC LIMITS FOR %RECOVERY = 75-125
QC LIMITS FOR RPD = 20
comments:

C criteria for the Aluminium Matrix Spike Duplicate and the precision analysis were not met. A Post digest spike analalysis on this sample ilded 110% recovery indicating an absence of matrix interference. The result for Aluminum is reported as an estimate due to the precsision iteria not being met.

C criteria for the Iron Matrix Spike Duplicate were not met. The sample concentration was greater than 5 times the spike concentration. serial Dilution analysis on this sample yeilded a percent difference of 0.2, which indicates an absence of matrix interference.

MATRIX SPIKE /MATRIX SPIKE DUPLICATE RESULTS
METALS

'ORK ORDER NO. 9606151

ATE COLLECTED: 06/11/96

AMPLE IDENTIFICATION: 02-MW3-155-F
AMPLE RESULT and SPIKE ADDED are in units of mg/L
RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE EXTRACTED	DATE ANALYZED	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD
MANGANESE	6/12/96	6/14/96	0.020	0.5	96	98	2
NICKEL	6/12/96	6/15/96	0.0026	0.5	112	92	19
SODIUM	6/12/96	6/14/96	8.1	50	105	102	1
POTASSIUM	6/12/96	6/14/96	<1	20	104	104	0
THALLIUM	6/12/96	6/14/96	<0.001	0.5	96	94	3
' ENUIM	6/12/96	6/14/96	<0.002	0.5	110	108	2
.LVER	6/12/96	6/15/96	<0.01	0.5	90	82	8

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
GENERAL CHEMISTRY

'ORK ORDER NO.: 9606151 DATE COLLECTED: 06/11/96

AMPLE IDENTIFICATION: 02-MW3-155-F

NITS for SAMPLE RESULT and SPIKE ADDED are given below
RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE ANALYZED	UNITS	SAMPLE RESULT	SPIKE ADDED	% REC	% REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
SULFATE	6/12/96	mg/L	4.1	10	89	89	0	10	54-150
CHLORIDE	6/13/96	mg/L	24	20	95	95	0	10	91-121
FLUORIDE	6/14/96	mg/L	<0.1	2	100	100	0	7	69-125
HARDNESS	6/17/96	mg/L	39	40	108	98	5	20	74-127
AMMONIA NITROGEN	6/12/96	mg/L	<2	0.50	90	96	6	10	77-115
IDE	6/14//96	mg/L	<0.01	0.16	82	74	10	15	74-116

SAMPLE /SAMPLE DUPLICATE RESULTS
INORGANIC ANALYSES

ORK ORDER NO.: 9606151 DATE COLLECTED: 06/11/96

MPLE IDENTIFICATION: 02-MW3-155-F

ITS for SAMPLE RESULT and SAMPLE DUPLICATE are given below
LATIVE PERCENT DIFFERENCE (RPD) is in units of percent

TEST CODE	DATE ANALYZED	UNITS	SAMPLE RESULT	SAMPLE DUPLICATE	RPD	QC LIMITS RPD
ALKALINITY	6/12/96	mg/l	22	22	0	10
COLOR	6/12/96	COLOR	10	10	0	5
pH	6/12/96	pH	7.10	7.10	0	5
SPECIFIC CONDUCTANCE	6/13/96	µmhos/cm	96	96	0	5
TOTAL SOLVED SOLIDS	6/12/96	mg/L	100	90	11	15
TOTAL COLIFORM BACTERIA	6/12/96	colonies/100 mL	0	0	0	20
TURBIDITY	1/12/96	NTU	8.5	8.6	1	7

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 961255
Prepared For:

COMMONWEALTH ANALYTICAL
CHRIS REYNOLDS
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085-5308

Date: 06/21/96

Rondalynn Mull

Signature

6/21/96
Date:

Name: Rondalynn Mull

Core Laboratories, Inc.
420 West First Street
Casper, WY 82601

Title: Laboratory Supervisor

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CORE LABORATORIES

FINAL REPORT DISTRIBUTION
06/21/96

JOB NUMBER: 961255

COMPANY NAME	COMPANY MAILING ADDRESS	COMPANY CITY	STATE	COMPANY ZIP CODE
COMMONWEALTH ANALYTICAL CHRIS REYNOLDS	53 SOUTHAMPTON ROAD	WESTFIELD	MA	01085-5308

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CORE LABORATORIES

LABORATORY TESTS RESULTS
06/21/96

JOB NUMBER: 961255 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: 400096-4-50/CFR
DATE SAMPLED.....: 06/11/96
TIME SAMPLED.....: 16:00
WORK DESCRIPTION...: 9606151-01K

LABORATORY I.D...: 961255-0001
DATE RECEIVED....: 06/13/96
TIME RECEIVED....: 10:13
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICI
Gross Alpha, total	2.1		pCi/l	EPA 900.0	06/17/96	JG
Gross Alpha, total, error, +/-	0.7		pCi/l		06/17/96	JG
Gross Alpha, total, LLD	0.8		pCi/l		06/17/96	JG
Gross Beta, total	3.4		pCi/l	EPA 900.0	06/17/96	JG
Gross Beta, total, error, +/-	0.9		pCi/l		06/17/96	JG
Gross Beta, total, LLD	1.4		pCi/l		06/17/96	JG
Gamma, total (12.8-1947KeV)	<97.6		pCi/l	EPA 901.1	06/17/96	JG
m 226, total	ND		pCi/l	EPA 903.1	06/20/96	NRF
Radium 226, total, error, +/-	0.3		pCi/l		06/20/96	NRF
Radium 226, total, LLD	0.7		pCi/l		06/20/96	NRF
Radium 228, total	ND		pCi/l	EPA 904.0	06/19/96	DDP
Radium 228, total, error, +/-	1.1		pCi/l		06/19/96	DDP
Radium 228, total, LLD	2.9		pCi/l		06/19/96	DDP
Strontium 90, total	0.3		pCi/l	EPA 905.0	06/19/96	NRF
Strontium 90, total, error, +/-	0.5		pCi/l		06/19/96	NRF
Strontium 90, total, LLD	1.2		pCi/l		06/19/96	NRF

420 West First Street
Casper, WY 82601
(307) 235-5741

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CORE LABORATORIES

LABORATORY TESTS RESULTS
06/21/96

JOB NUMBER: 961255 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: 400096-4-50/CFR
DATE SAMPLED.....: 06/11/96
TIME SAMPLED.....: 16:00
WORK DESCRIPTION...: 9606151-01J

LABORATORY I.D...: 961255-0002
DATE RECEIVED....: 06/13/96
TIME RECEIVED....: 10:13
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICI
Tritium, total	243		pCi/l	EPA 906.0	06/13/96	NRF
Tritium, total, error, +/-	165		pCi/l		06/13/96	NRF
Tritium, total, LLD	263		pCi/l		06/13/96	NRF

420 West First Street
Casper, WY 82601
(307) 235-5741

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CORE LABORATORIES

QUALITY CONTROL REPORT
06/21/96

JOB NUMBER: 961255 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Tritium, total			DATE/TIME ANALYZED:06/13/96 19:06							QC BATCH NUMBER:17991
REPORTING LIMIT/DF:	UNITS:pCi/l		METHOD REFERENCE :EPA 906.0							TECHNICIAN:NR
BLANK	MB	MB2H30613	0.1							
STANDARD	LCS	ST1H30613	19.1			22.9	83			
SPIKE	MS	961255-2	2110					243	2290	82
DUPLICATE	MD	961255-2	243	117	70					
PARAMETER:Gross Alpha, total			DATE/TIME ANALYZED:06/17/96 19:39							QC BATCH NUMBER:1799E
REPORTING LIMIT/DF:	UNITS:pCi/l		METHOD REFERENCE :EPA 900.0							TECHNICIAN:JC
BLANK	MB	MB2AB0612	1.2							
STANDARD	LCS	LCS1A0612	27.4			25.5	107			
SPIKE	MS	961240-1	131					1.9	128	101
DUPLICATE	MD	961240-1	1.9	1.9	0					
PARAMETER:Gross Beta, total			DATE/TIME ANALYZED:06/17/96 19:59							QC BATCH NUMBER:1799E
?TING LIMIT/DF:	UNITS:pCi/l		METHOD REFERENCE :EPA 900.0							TECHNICIAN:JC
	MB	MB2AB0612	0.8							
STANDARD	LCS	LCS1B0612	24.9			21.5	116			
SPIKE	MS	961240-1	124					1.2	108	114
DUPLICATE	MD	961240-1	1.2	4.4	114					
PARAMETER:Strontium 90, total			DATE/TIME ANALYZED:06/19/96 10:11							QC BATCH NUMBER:1801E
REPORTING LIMIT/DF:	UNITS:pCi/l		METHOD REFERENCE :EPA 905.0							TECHNICIAN:NF
BLANK	MB	MB2SR0614	0.4							
STANDARD	LCS	LC1SR0614	23.3			24.0	97			
SPIKE	MS	961255-1	40.2					0.3	48.0	83
DUPLICATE	MD	961255-1	0.3	ND	200					
PARAMETER:Radium 226, total			DATE/TIME ANALYZED:06/20/96 05:17							QC BATCH NUMBER:18017
REPORTING LIMIT/DF:	UNITS:pCi/l		METHOD REFERENCE :EPA 903.1							TECHNICIAN:NF
BLANK	MB	MB4R60617	ND							
STANDARD	LCS	LC2R60617	13.1			15.0	87			
SPIKE	MS	961255-1	32.3					ND	30.0	108
DUPLICATE	MD	961255-1	ND	1.4	1					
PARAMETER:Gross Gamma, total (12.8-1947KeV)			DATE/TIME ANALYZED:06/17/96 21:00							QC BATCH NUMBER:18025
REPORTING LIMIT/DF:	UNITS:pCi/l		METHOD REFERENCE :EPA 901.1							TECHNICIAN:JC
STANDARD	STD-CS137	LCS10613	80200			86700	93			
DUPLICATE	MD-CS137	961212-1	ND	ND	0					
PARAMETER:Radium 228, total			DATE/TIME ANALYZED:06/19/96 15:18							QC BATCH NUMBER:1802c
REPORTING LIMIT/DF:	UNITS:pCi/l		METHOD REFERENCE :EPA 904.0							TECHNICIAN:DC
BLANK	MB	MB4R80617	ND							

420 West First Street
Casper, WY 82601
(307) 235-5741

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CORE LABORATORIES

QUALITY CONTROL REPORT
06/21/96

JOB NUMBER: 961255 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Radium 228, total				DATE/TIME ANALYZED:06/19/96 15:18						QC BATCH NUMBER:1802
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 904.0						TECHNICIAN:D
STANDARD	LCS	LC1R80617	13.9			14.4	97			
SPIKE	MS	961261-1	16.0					0.1	14.4	110
DUPLICATE	MD	961255-1	ND	0.8	1					

420 West First Street
Casper, WY 82601
(307) 235-5741

The analytical results, opinions or interpretations contained in this report are based upon information and material supplied by the client for whose exclusive and confidential use this report has been made. The analytical results, opinions or interpretations expressed represent the best judgement of Core Laboratories. Core Laboratories, however, makes no warranty or representation, express or implied, of any type, and expressly disclaims same as to the productivity, proper operations or profitableness of any oil, gas, coal, or other mineral property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, in whole or in part, without the written approval of Core Laboratories.

CORE LAB

CORE LABORATORIES

QUALITY CONTROL FOOTER

METHOD REFERENCES

(1) EPA 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, March 1983
(2) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, November 1990 and July 1992 update
(3) Standard Methods for the Examination of Water and Wastewater, 17th, 1989
(4) EPA 600/4-80-032, Prescribed Procedures for Measurement of Radioactivity in Drinking Water, August 1980
(5) Federal Register, Friday, October 26, 1984 (40 CFR Part 136)
(6) EPA 600/8-78-017, Microbiological Methods for Monitoring the Environment, December 1978

COMMENTS

(1) The data in the Laboratory Test Results Report may differ from the data in the QC Report due to calculations for sample preparation and/or dilutions.
(2) The "Time Analyzed" in the QC Report may not reflect the actual time of each analysis. The "Date Analyzed" is the actual date of analysis.
(3) Soil and sludge samples are reported on a wet basis or on an "as received" basis unless otherwise indicated.
(4) The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.
(5) Analyses performed by a subcontract laboratory are indicated with an asterisk and associated code in the "Technician" data field.

Subcontract Laboratories	Code
Core Laboratories - Anaheim, CA	* AN
Core Laboratories - Aurora, CO	* AU
Core Laboratories - Casper, WY	* CA
Core Laboratories - Corpus Christi, TX	* CC
Core Laboratories - Houston, TX	* HP
Core Laboratories - Lake Charles, LA	* LC
Core Laboratories - Long Beach, CA	* LB
Other Subcontract Laboratories	* XX

DEFINITIONS

(1) NC = Not Calculable due to values lower than the reporting limit.
(2) ND = Not Detected above the reporting limit.

QC SAMPLE IDENTIFICATIONS

BLANKS

MB - Method Blank (also referred to as a preparation blank)
RB - Reagent Blank
IB Instrument Blank
ICB Initial Calibration Blank
CCB Continuing Calibration Blank
HB Holding Blank (also referred to as a storage blank)

DUPLICATES

MSD - Matrix Spike Duplicate
MD = Method Duplicate

SPIKES

MS = Matrix Spike
MSD = Matrix Spike Duplicate
PDS = Post Digestion Spike
BS = Blank Spike (also referred to as a method spike)
SS = Surrogate Spike

REFERENCE STANDARDS

CS = Calibration Standard
RS = Reference Standard (also referred to as an external reference standard)
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
LCS = Laboratory Control Sample

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(307) 235-5741

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LOCKHEED MARTIN

Lockheed Analytical Services

COMMONWEALTH ANALYTICAL

ANALYTICAL DATA REPORT

FOR

EXPLOSIVES

LOG-IN NUMBER:	L7219
QUOTATION NUMBER:	Q613656
DOCUMENT FILE NUMBER:	0613702

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

LOCKHEED MARTIN

June 28, 1996

Ms. Christine Reynolds
Commonwealth Analytical
53 Southhampton Road
Westfield, MA 01085

RE: Log-in No.: L7219
Quotation No.: Q613656
Document File No.: 0613702

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on June 13, 1996. The temperature of the cooler upon receipt was 10°C. All containers were properly labeled and agree with the chain-of-custody. Sample containers were received intact. Sample containers were properly preserved for the analysis requested. Sample containers had sufficient sample volume for the analysis requested. All samples were received within the analytical holding time. All discrepancies identified upon receipt of the samples have been forwarded to the client.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Martin Dillon at (702) 361-3955, ext. 335. If you are unable to contact the client services representative, please call Mary B. Ford, client services manager, at ext.326.

Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

Sincerely,

Martin Dillon
Client Services Representative

cc: Client Services
Document Control

Analytical Batch 062096-8330-HPLCA-1

Since low levels of 2,4,6-trinitrotoluene (TNT) were detected in analyses of both the initial and re-extracts of client sample 9606151-OIL, the presence of TNT was qualitatively confirmed by analysis of the L7219-1 extract on a cyano column per Method 8330.

Since the matrix of client sample 9606151-OIL apparently prevents acceptable 4-nitroaniline surrogate recoveries by conventional Method 8330 extraction and analysis, the results obtained should be used with appropriate caution. Although the presence of TNT was confirmed on a cyano column, the certainty of its presence is also clouded by the significant matrix effect observed. The loss of the mononitrocompounds in the re-extraction LCSD (38230LCSD) is from an unrelated problem and does not adversely impact data quality.

Prepared By
Daniel C. Fischer

June 28, 1996

CASE NARRATIVE
ORGANIC ANALYSES

Analytical Method 8330 Explosives

Analytical Batch 061696-8330-HPLCA-4

The sample 9606151-OIL (L7219-1) was originally extracted within holding time on June 13, 1996 in LAS QC Batch (Workgroup) 8330 Explosives_38019. The samples in this workgroup were analyzed within analytical holding time on June 18, 1996 in Analytical Batch 061696-8330-HPLCA-4. All initial calibration criteria were met. All continuing calibration criteria for the beginning continuing calibration were met with the exception of the percent difference for RDX, which was slightly high. All continuing calibration criteria for the ending continuing calibration were met. RDX was not detected in the sample. Virtually no recovery was obtained for the surrogate 4-nitroaniline in client sample 9606151-OIL (L7219-1). Surrogate recoveries were within criteria in the method blank (38019MB), the LCS (38019LCS) and the LCS Duplicate (38019LCSD). An LCS/LCSD was extracted in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD). No target analytes were detected in the 38019MB, however, non-target contamination was detected. Spiked compound recoveries were within criteria in the 38019LCS and 38019LCSD. Additionally, the non-target analyte contamination that was observed in 38019MB was not present in the 38019LCS or 38019LCSD. The Relative Percent Difference (RPD) between the LCS/LCSD recoveries was within acceptance criteria for all compounds.

Since no surrogate recovery was obtained for the client sample 9505151-OIL, the sample was re-extracted within holding time on June 18, 1996 in LAS QC Batch (Workgroup) 8330 Explosives_38230 using a duplicate aliquot (L7219-2). The samples in this workgroup were analyzed within analytical holding time on June 21, 1996 in Analytical Batch 062196-8330-HPLCA-2.

Analytical Batch 062196-8330-HPLCA-2

All initial calibration criteria were met. All continuing calibration criteria were met for the beginning continuing calibration. All continuing calibration criteria were met for the ending continuing calibration with the exception of the percent difference for RDX, which was slightly high. As in the analysis of the initial extract of client sample 9606151-OIL, virtually no recovery of the surrogate was obtained from the analysis of the re-extract. The lack of surrogate recovery is a result of the effect of the sample matrix on the extraction and/or analysis. Surrogate recoveries were within criteria in 38230MB, 38230LCS and 38230LCSD. No target analytes were detected in the 38230MB. Spiked compound recoveries were within criteria in the 38230LCS and 38230LCSD with the exception of the percent recoveries of the mononitrocompounds (nitrobenzene, 2-nitrotoluene, 3-nitrotoluene and 4-nitrotoluene) in the 38230LCSD. These compounds were not detected in the LCSD. The cause of this problem is unrelated to the lack of surrogate recovery from the client sample 9606151-OIL (L7219-2). The RPDs between the LCS/LCSD recoveries were within acceptance criteria with the exception of the mononitrocompounds and 2,6-dinitrotoluene.

Lockheed Analytical Services
DATA QUALIFIERS FOR ORGANIC ANALYSES

[Revised 02/09/1996]

For Use On The Analytical Data Reporting Forms	
A	***For CLP analyses Only*** -- The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL).
C	Constituent confirmed by GC/MS analysis. *[pesticide/PCB analyses only]*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to surrogates being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* -- (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(For CLP Reporting Only)***.
N	***For CLP Reporting Only*** -- Tentatively identified constituents (TICs) identified based on mass spectral library search.
NQ	Analyte detected, but Not Quantified; see result from subsequent analysis
P	***For CLP Reporting Only*** -- The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only]*.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an "*as received*" basis. A value in the % moisture cell indicates that data are reported based on a "*dry weight*" basis.
For Use On The QC Data Reporting Forms	
*	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC Summary Form.

SAMPLE RECEIPT LOG-IN
AND
CHAIN OF CUSTODY

Revised

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jun 18 1996, 03:39 pm

Organics

Login Number: L7219
Account: 702 COMMONWEALTH ANALYTICAL
Project: 8330 RUSH

Laboratory Sample Number			Client Sample Number	Collect Date	Receive Date	PR	Due Date
L7219-1			9606151-OIL	11-JUN-96	13-JUN-96		18-JUN-9
TEMP 10							
Location: 170							
Water	1	S	8330 EXPLOSIVES	Hold:18-JUN-96			
L7219-2			9606151-OIL	11-JUN-96	13-JUN-96		18-JUN-9
* TEMP 10							
Location: RFG02-36B							
Water	1	S	8330 EXPLOSIVES	Hold:18-JUN-96			
L7219-3			REPORT TYPE	13-JUN-96	13-JUN-96		18-JUN-9
Location:							
Water	1	S	FORD				
Water	1	S	GC3A				

* added 8330 for re-extraction.

Signature: Judith L Bellis

Date: 06-18-96

C 613702

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jun 13 1996, 11:11 am

dh WBF 6/19/96

Login Number: L7219
Account: 702 COMMONWEALTH ANALYTICAL
Project: 8330 RUSH

Laboratory Sample Number --	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L7219-1	9606151-OIL	11-JUN-96	13-JUN-96		18-JUN-96
TEMP 10					
Location: RFG02-36B					
Water 1 S 8330	EXPLOSIVES	Hold:18-JUN-96			
L7219-2	9606151-OIL	11-JUN-96	13-JUN-96		18-JUN-96
TEMP 10					
Location: RFG02-36B					
L7219-3	REPORT TYPE	13-JUN-96	13-JUN-96		18-JUN-96
Location:					
Water 1 S FORD					
Water 1 S GC3A					

Signature: Paula Davis

Date: 6-13-96

061370

Chain of Custody Form 7219

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01(
(413)572-3200 fax(413)572-3215

Client: Commonwealth Analytical Job#/Proj. Manager: 400096-4-50 / CFR

Address: 53 Southampton Road Westfield, ma. 01085

Work ID:

Contact: Christine Reynolds

Phone: (413) 572-3278 Collected by:

Workorder #

COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☒
48 hr. ☐ 2 wk. ☐ Specify: 5day

Special Detection Limits?(✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)

(1) Nitroaromatics Method 8330 by HPLC

5day Turn-around time

Quote # Q6136056

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Lubwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4°C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	9606151-01L	GW	6/11/96 1100	✓		2	G							X												(1)

Relinquished by: Christine Reynolds Date: 6/12/96 Time: 15:45
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Method of shipment:
Laboratory: 6/13/96 11:05

Cooler #:
Temp. @ receipt: 10°C
Preservation pH checked MSF
By: Date:

Q6136056

CommonwealthAnalytical

Re: Method 8330

Date: 6/12-196

Lockheed-Env.
975 Kelly Johnson Dr.
Las Vegas, NV 89119

Att. Bob Seyer

We are sending:

☐ report(s) ☐ proposal ☐ other _____ ☐ other documents

as listed below:

No. Copies	Description
2 ground water	9606151-01L

☐ for your file

☐ as requested by _____

☐ revise and/or resubmit

☐ _____

Remarks: Please analyze for Method 8330 by HPLC. A 5 day turnaround time has been requested and approved. Please return cooler and ice packs as soon as possible

Copies to:
File

Very truly yours,
CommonwealthAnalytical
Kristine Lemunte Symolon

Westfield Executive Park · 53 Southampton Road · Westfield, MA 01085-5308 · Tel. 413-572-3200 · Fax 413-572-3215
12020 Sunrise Valley Drive · Suite 100 · Reston, VA 22091-3429 · Tel. 703-391-2770 · Fax 703-391-2766
A division of Tighe & Bond, Inc.

CL0137

LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number 67219

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent) the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	x			
2. Are all samples present?	x			
3. Are all matrices indicated correctly?	x			
4. Are all analyses on the COC logged in for the appropriate samples?	x			
5. Are all analyses logged in for the correct container?	x			
6. Are samples logged in according to LAS batching procedures?	x			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	x			
2. Have all appropriate comments been indicated in the comment section?	x			

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			x	

[signature] 6-13-96
primary review signature date

[signature] 6-13-96
secondary review signature date

OC1370

Lockheed [illegible]lytical Services
Sample R[illegible]ceiving Checklist

Client Name: Commonwealth Job No. L7219 Cooler ID: Lab A

COOLER CONDITION UPON RECEIPT			
Temperature of cooler upon receipt:	10° C (contacted Mary F. about temp. pcd 6-13-96		
temperature of temp. blank upon receipt:			
	Yes	No	* Comments/Discrepancies
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen		X	Blue ice not frozen
rad survey completed	X		

SAMPLE CONDITION UPON RECEIPT			
	Yes	No	* Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace		N/A	
are samples bi-phasic (if so, indicate sample ID'S):		N/A	

MISCELLANEOUS ITEMS			
	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		N/A	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Paula Dolan 6-13-96

Sent to the client (date/initials): ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146*

CLE1370

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
COMMONWEALTH ANALYTICAL

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
9606151-OIL --	L7219-1		Water	8330 EXPLOSIVES
REPORT TYPE	L7219-3		Water	FORD
	L7219-3		Water	GC3A

EPA METHOD 8330 (Explosives)

SAMPLE RESULTS FORMS AND QC SUMMARIES

LOCKHEED ANALYTICAL SERVICES

LOSIVES BY HPLC
8330 EXPLOSIVES

Client Sample ID:	9606151-OIL	LAL Sample ID:	L7219-1
Date Collected:	11-JUN-96	Date Received:	13-JUN-96
Date Analyzed:	18-JUN-96	Analytical Batch ID:	061696-8330-HPLCA-4
Date Extracted:	13-JUN-96	Analytical Dilution:	1
Matrix:	Water	Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38019

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	0.31% *	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	0.27	0.26	
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

.OSIVES BY HPLC
EXPLOSIVES

Client Sample ID:	9606151-OIL	LAL Sample ID:	L7219-2
Date Collected:	11-JUN-96	Date Received:	13-JUN-96
Date Analyzed:	21-JUN-96	Analytical Batch ID:	062196-8330-HPLCA-2
Date Extracted:	18-JUN-96	Analytical Dilution:	1
Matrix:	Water	Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38230

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	0.00% *	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	0.16	0.26	J
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

)SIVES BY HPLC

Client Sample ID:	Method Blank	LAL Sample ID:	38019MB
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	18-JUN-96	Analytical Batch ID:	061696-8330-HPLCA-4
Date Extracted:	13-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38019

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	59%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	<0.26	0.26	
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

LOSIVES BY HPLC

Client Sample ID:	Method Blank	LAL Sample ID:	38230MB
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	21-JUN-96	Analytical Batch ID:	062196-8330-HPLCA-2
Date Extracted:	18-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38230

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	70%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	<0.26	0.26	
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

KED SAMPLE RESULT
,OSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	38019LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	18-JUN-96	Analytical Batch ID:	061696-8330-HPLCA-4
Date Extracted:	13-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38019

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	72%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
1,3-Dinitrobenzene	99-65-0	1.8	0.30	
HMX	2691-41-0	1.8	1.0	
Nitrobenzene	98-95-3	1.6	0.50	
2-Nitrotoluene	88-72-2	1.6	0.25	
3-Nitrotoluene	99-08-1	1.6	0.25	
4-Nitrotoluene	99-99-0	1.6	0.25	
RDX	121-82-4	2.1	0.85	
Tetryl	479-45-8	1.7	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.9	0.45	
2,4,6-Trinitrotoluene	118-96-7	2.0	0.26	
2-Am-4,6-DNT	35572-78-2	2.0	0.26	
4-Am-2,6-DNT	1946-51-0	2.0	0.26	
2,6-Dinitrotoluene	606-20-2	1.8	0.25	
2,4-Dinitrotoluene	121-14-2	2.1	0.26	

LOCKHEED ANALYTICAL SERVICES

"KED SAMPLE RESULT
LOSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	38230LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	21-JUN-96	Analytical Batch ID:	062196-8330-HPLCA-2
Date Extracted:	18-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38230

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	69%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	1.8	0.30	
HMX	2691-41-0	1.9	1.0	
Nitrobenzene	98-95-3	1.6	0.50	
2-Nitrotoluene	88-72-2	1.7	0.25	
3-Nitrotoluene	99-08-1	1.7	0.25	
4-Nitrotoluene	99-99-0	1.9	0.25	
RDX	121-82-4	1.9	0.85	
Tetryl	479-45-8	1.9	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.9	0.45	
2,4,6-Trinitrotoluene	118-96-7	2.1	0.26	
2-Am-4,6-DNT	35572-78-2	2.0	0.26	
4-Am-2,6-DNT	1946-51-0	2.0	0.26	
2,6-Dinitrotoluene	606-20-2	1.7	0.25	
2,4-Dinitrotoluene	121-14-2	2.0	0.26	

LOCKHEED ANALYTICAL SERVICES

KED SAMPLE RESULT
OSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample Dup	LAL Sample ID:	38019LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	18-JUN-96	Analytical Batch ID:	061696-8330-HPLCA-4
Date Extracted:	13-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38019

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	74%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
1,3-Dinitrobenzene	99-65-0	1.8	0.30	
HMX	2691-41-0	1.8	1.0	
Nitrobenzene	98-95-3	1.5	0.50	
2-Nitrotoluene	88-72-2	1.4	0.25	
3-Nitrotoluene	99-08-1	1.2	0.25	
4-Nitrotoluene	99-99-0	1.4	0.25	
RDX	121-82-4	1.9	0.85	
Tetryl	479-45-8	1.8	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.9	0.45	
2,4,6-Trinitrotoluene	118-96-7	2.1	0.26	
2-Am-4,6-DNT	35572-78-2	2.2	0.26	
4-Am-2,6-DNT	1946-51-0	2.0	0.26	
2,6-Dinitrotoluene	606-20-2	1.7	0.25	
2,4-Dinitrotoluene	121-14-2	2.1	0.26	

LOCKHEED ANALYTICAL SERVICES

PIKED SAMPLE RESULT
LOSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample Dup	LAL Sample ID:	38230LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	21-JUN-96	Analytical Batch ID:	062196-8330-HPLCA-2
Date Extracted:	18-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38230

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	69%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	1.4	0.30	
HMX	2691-41-0	1.7	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	1.9	0.85	
Tetryl	479-45-8	1.5	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.9	0.45	
2,4,6-Trinitrotoluene	118-96-7	1.5	0.26	
2-Am-4,6-DNT	35572-78-2	1.9	0.26	
4-Am-2,6-DNT	1946-51-0	1.7	0.26	
2,6-Dinitrotoluene	606-20-2	1.1	0.25	
2,4-Dinitrotoluene	121-14-2	1.6	0.26	

LOCKHEED ANALYTICAL SERVICES

DATA SUMMARY
LOSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	38019LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	18-JUN-96	Analytical Batch ID:	061696-8330-HPLCA-4
Date Extracted:	13-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38019

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	72%	40-110

Constituent	Spike Added ug/L	LCS Concentration ug/L	LCS % Recovery	QC Limits
1,3-Dinitrobenzene	2.00	1.76	88	48-118
HMX	2.00	1.84	92	43-113
Nitrobenzene	2.00	1.64	82	33-110
2-Nitrotoluene	2.00	1.55	78	42-112
3-Nitrotoluene	2.00	1.61	80	33-110
4-Nitrotoluene	2.00	1.61	80	36-110
RDX	2.00	2.06	103	50-120
Tetryl	2.00	1.72	86	56-126
1,3,5-Trinitrobenzene	2.00	1.92	96	49-119
2,4,6-Trinitrotoluene	2.00	1.95	98	50-120
2-Am-4,6-DNT	2.00	2.04	102	60-120
4-Am-2,6-DNT	2.00	2.05	102	60-120
2,6-Dinitrotoluene	2.00	1.81	91	49-119
2,4-Dinitrotoluene	2.00	2.05	103	44-114

LOCKHEED ANALYTICAL SERVICES

'S DATA SUMMARY
'LOSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	38230LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	21-JUN-96	Analytical Batch ID:	062196-8330-HPLCA-2
Date Extracted:	18-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38230

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	69%	40-110

Constituent	Spike Added ug/L	LCS Concentration ug/L	LCS % Recovery	QC Limits
1,3-Dinitrobenzene	2.00	1.81	90	48-118
HMX	2.00	1.87	93	43-113
Nitrobenzene	2.00	1.59	80	33-110
2-Nitrotoluene	2.00	1.73	87	42-112
3-Nitrotoluene	2.00	1.68	84	33-110
4-Nitrotoluene	2.00	1.87	94	36-110
RDX	2.00	1.91	96	50-120
Tetryl	2.00	1.85	93	56-126
1,3,5-Trinitrobenzene	2.00	1.90	95	49-119
2,4,6-Trinitrotoluene	2.00	2.07	103	50-120
2-Am-4,6-DNT	2.00	1.99	100	60-120
4-Am-2,6-DNT	2.00	2.05	102	60-120
2,6-Dinitrotoluene	2.00	1.75	87	49-119
2,4-Dinitrotoluene	2.00	1.98	99	44-114

LOCKHEED ANALYTICAL SERVICES

DUPLICATE DATA SUMMARY
)SIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample Dup	LAL Sample ID:	38019LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	18-JUN-96	Analytical Batch ID:	061696-8330-HPLCA-4
Date Extracted:	13-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38019

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	74%	40-110

Constituent	Spike Added ug/L	LCS DUP Concentration ug/L	% Recovery	RPD	QC Limits RPD	QC Limits % Recovery
1,3-Dinitrobenzene	2.00	1.84	92	4	30	48-11
HMX	2.00	1.79	90	2	30	43-11
Nitrobenzene	2.00	1.51	75	8	30	33-11
2-Nitrotoluene	2.00	1.40	70	10	30	42-11
3-Nitrotoluene	2.00	1.18	59	30	30	33-11
4-Nitrotoluene	2.00	1.44	72	11	30	36-11
RDX	2.00	1.89	95	9	30	50-12
Tetryl	2.00	1.85	92	7	30	56-12
?,5-Trinitrobenzene	2.00	1.85	93	3	30	49-11
6-Trinitrotoluene	2.00	2.06	103	5	30	50-12
.m-4,6-DNT	2.00	2.18	109	7	30	60-12
4-Am-2,6-DNT	2.00	2.00	100	2	30	60-12
2,6-Dinitrotoluene	2.00	1.74	87	4	30	49-11
2,4-Dinitrotoluene	2.00	2.07	104	1	30	44-11

LOCKHEED ANALYTICAL SERVICES

LCS DUPLICATE DATA SUMMARY
EXPLOSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample Dup	LAL Sample ID:	38230LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	21-JUN-96	Analytical Batch ID:	062196-8330-HPLCA-2
Date Extracted:	18-JUN-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_38230

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	69%	40-110

Constituent	Spike Added ug/L	LCS DUP Concentration ug/L	% Recovery	RPD	QC Limits RPD	QC Limits % Recovery
1,3-Dinitrobenzene	2.00	1.37	68	28	30	48-1
HMX	2.00	1.70	85	10	30	43-1
Nitrobenzene	2.00	0.000	0.00*	200*	30	33-1
2-Nitrotoluene	2.00	0.000	0.00*	200*	30	42-1
3-Nitrotoluene	2.00	0.000	0.00*	200*	30	33-1
4-Nitrotoluene	2.00	0.000	0.00*	200*	30	36-1
RDX	2.00	1.92	96	1	30	50-1
Tetryl	2.00	1.47	74	23	30	56-1
3,5-Trinitrobenzene	2.00	1.90	95	0	30	49-1
,6-Trinitrotoluene	2.00	1.53	76	30	30	50-1
Am-4,6-DNT	2.00	1.93	97	3	30	60-1
4-Am-2,6-DNT	2.00	1.74	87	16	30	60-1
2,6-Dinitrotoluene	2.00	1.09	54	46*	30	49-1
2,4-Dinitrotoluene	2.00	1.60	80	21	30	44-1

SAMPLE DATA

Lockheed Analytical Services

DX 6/19/96

Data Reprocessed On 06/19/1996 13:27:15

Sample Name: L7219-1 Date: 06/18/1996 10:07:15
Data File : E:\DX\DATA\HPLCA\8330\061696\06169601.d70
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 70 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
3	6.00	2.86	HMX	99185	0.401
5	7.67	0.44	4-NA**Surrogate*	11298	0.039
6	9.13	1.48	RDX	15513	0.047
9	12.27	0.27	135-Trinitrobenze	2607492	3.556
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
12	19.93	1.18	246-Trinitrotolue	160407	0.266
13	20.60	-0.16	4-Am-2,6-DNT	131898	0.274
1	21.53	-0.46	2-Am-4,6-DNT	738221	0.983
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	3764014	5.566

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.90			122129	0.000
2	5.37			107965	0.000
4	6.43			43949	0.000
7	9.73			66576	0.000
8	11.70			133881	0.000
10	13.67			126979	0.000
11	19.03			130529	0.000
15	27.00			55410	0.000
			Totals	787419	0.000

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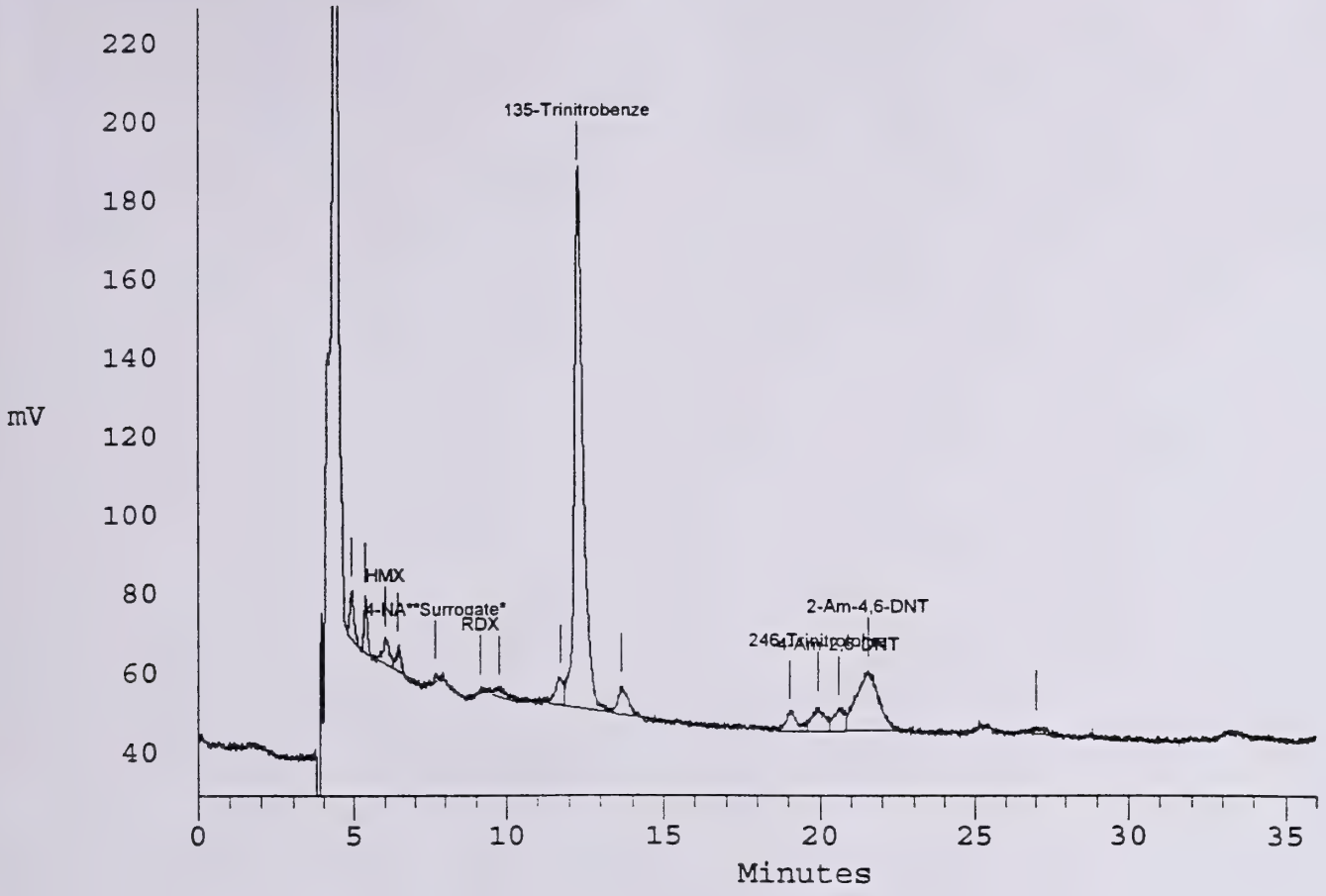

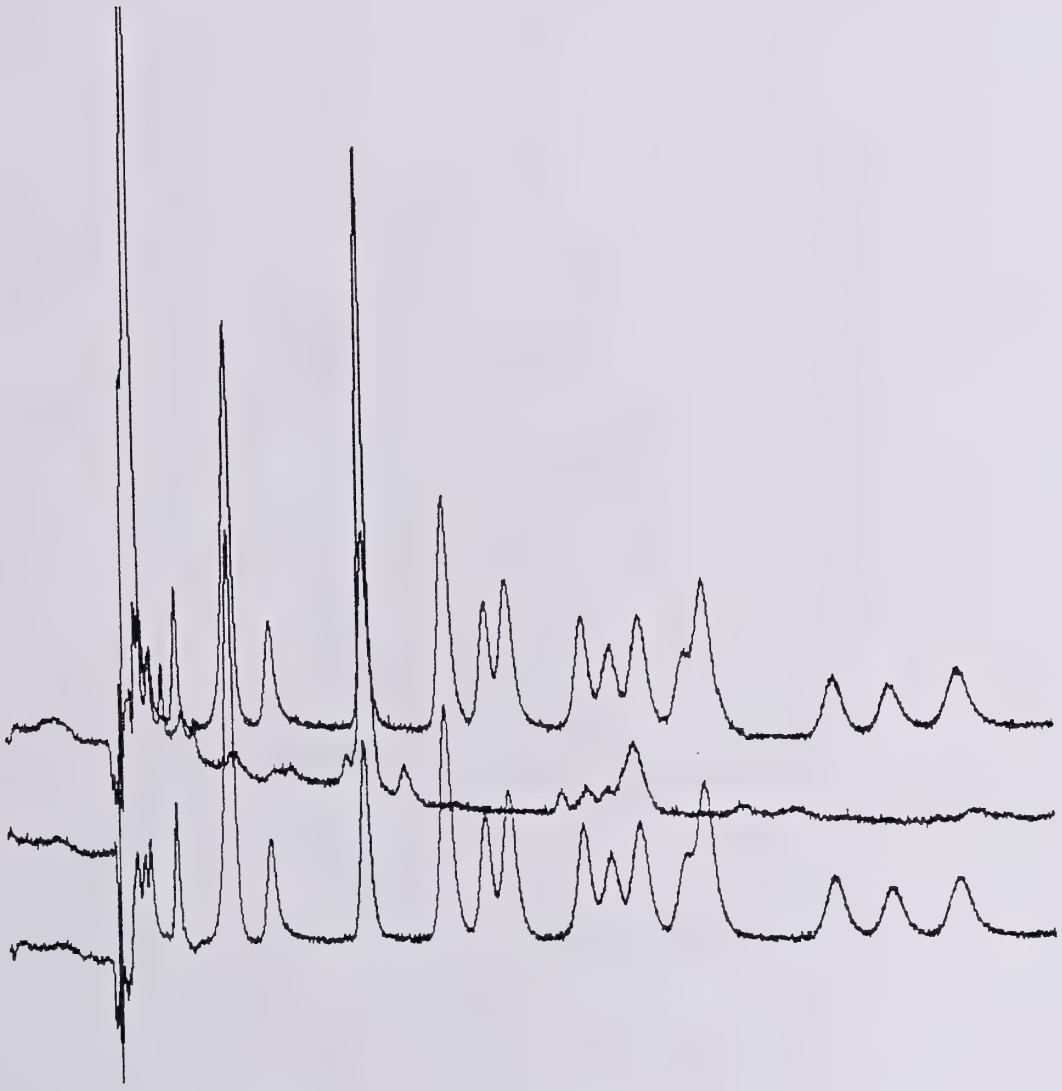

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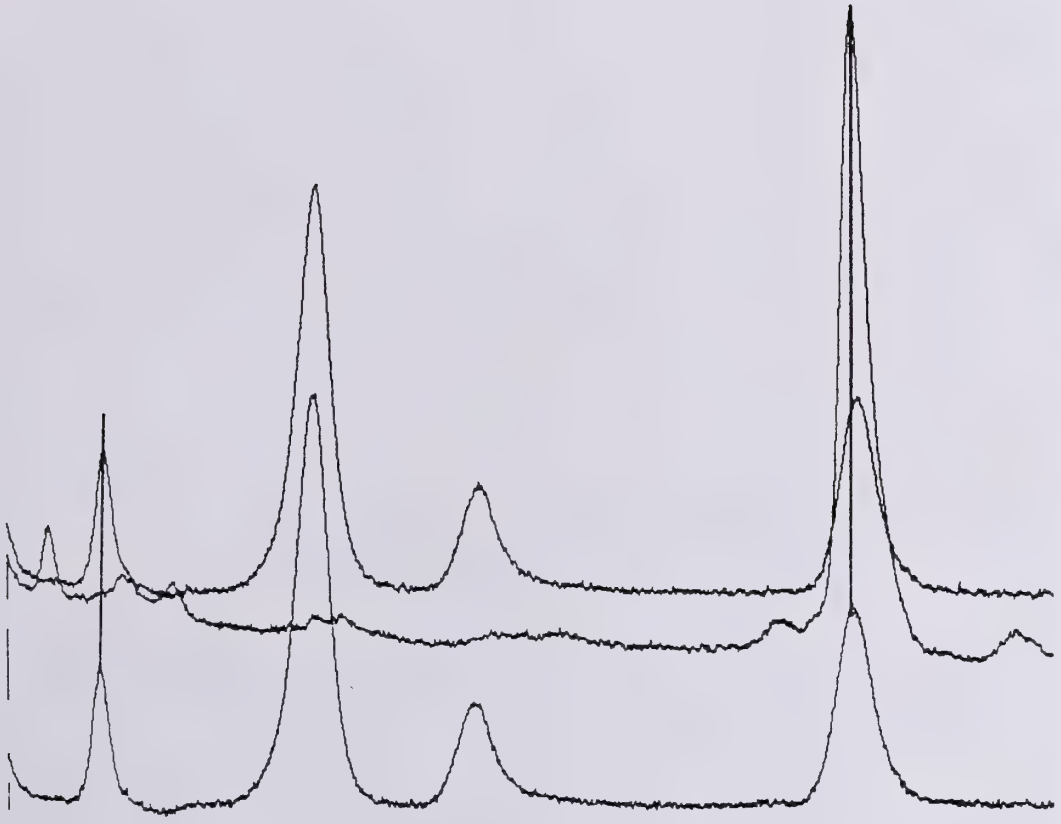
06169601.D70

06169601.D59



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06169601.D59

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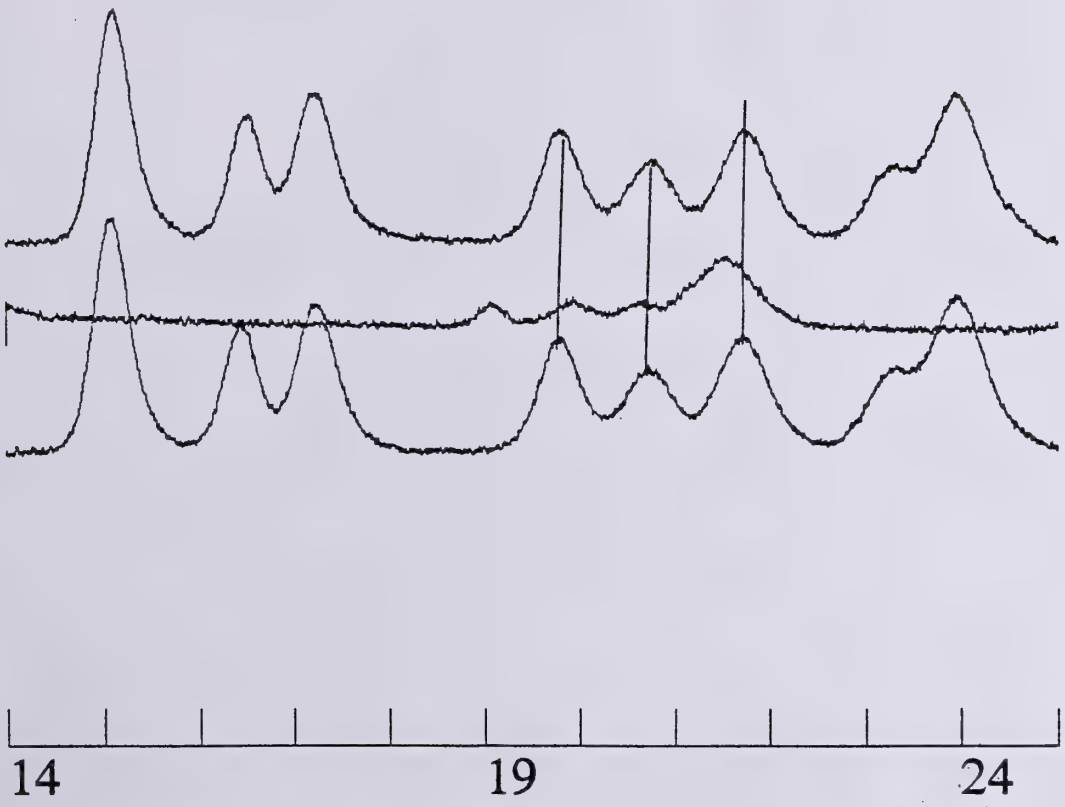
Minutes



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06169601.D59

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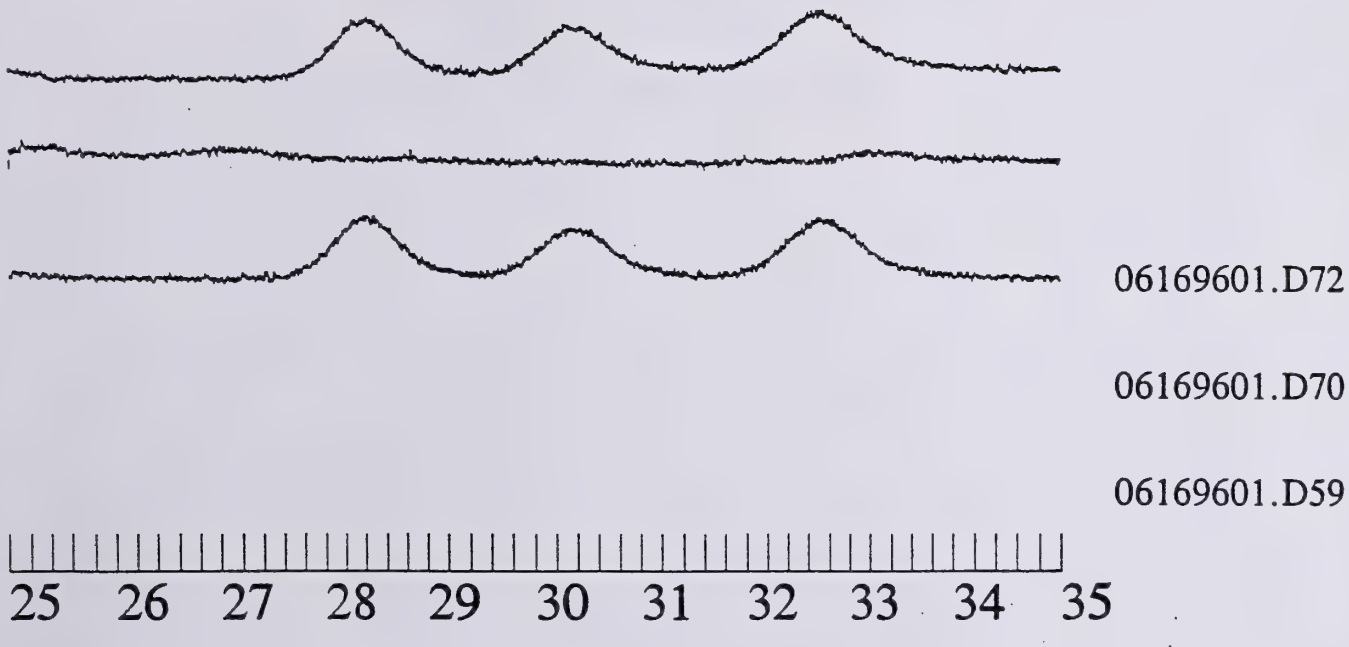
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06169601.D70
06169601.D59
25 26 27 28 29 30 31 32 33 34 35
Minutes

6/24/96

Lockheed Analytical Services

Data Reprocessed On 06/24/1996 14:25:23

6/24/96

Sample Name: ~~ZL~~7219-1 Date: 06/20/1996 06:30:29
Data File : E:\DX\DATA\HPLCA\8330\062096\06209601.D18
Method : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1 System: 1 Inject#: 18 Detector:UV/Vis
Analyst : PERCY Column: IB-SIL 5 CN

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

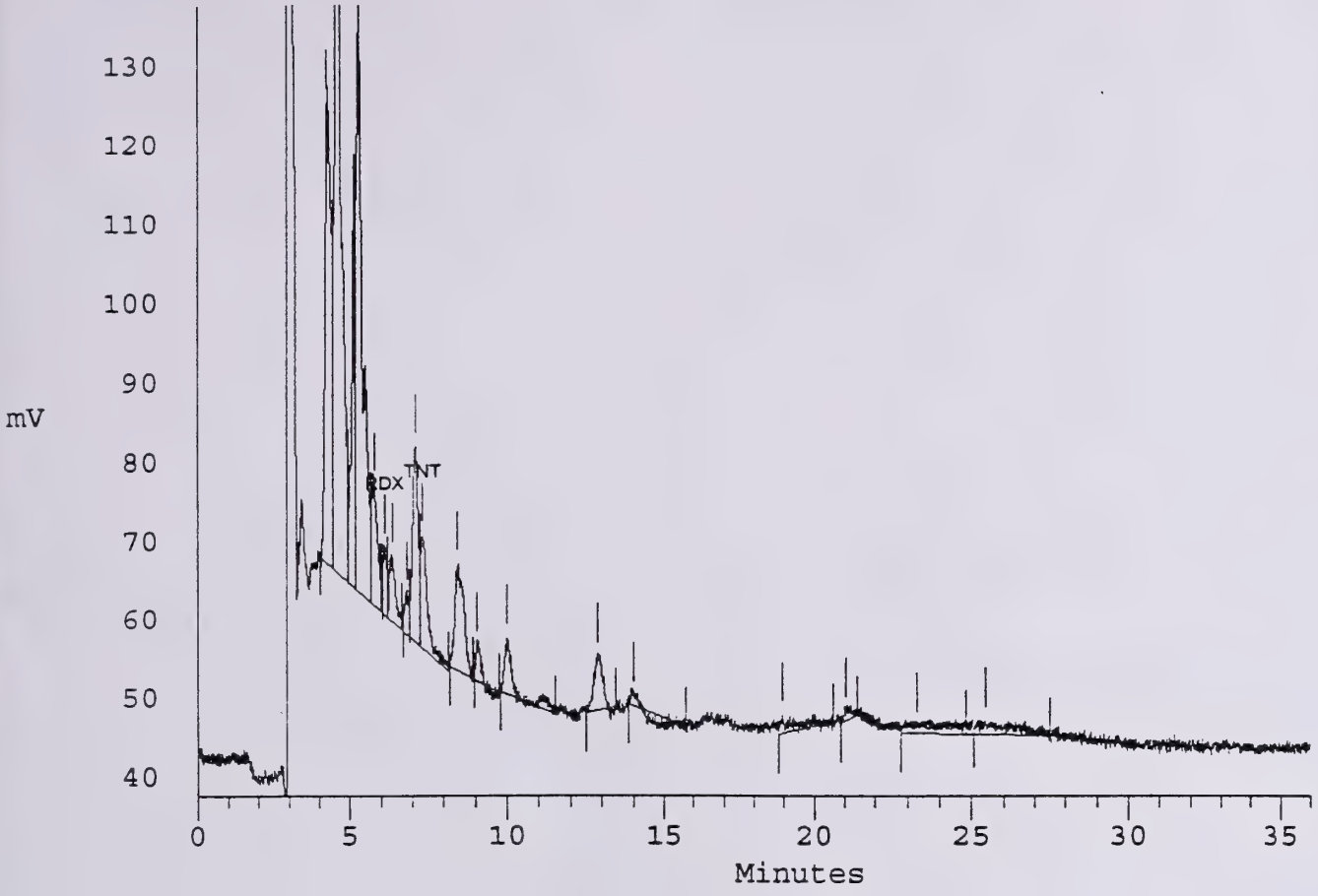
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
0	0.00	0.00	1,3,5-TRINITROBENZ	0	0.000
6	6.13	0.05	RDX	83940	0.075
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2-AM-DNT	0	0.000
0	0.00	0.00	4-AM-DNT	0	0.000
10	7.34	0.14	TNT	214395	0.760
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	298335	0.835

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.27			769820	0.000
2	4.60			1583343	0.000
3	5.13			398973	0.000
4	5.33			961022	0.000
5	5.80			200201	0.000
7	6.37			108345	0.000
8	6.83			47943	0.000
9	7.10			307691	0.000
11	8.43			270850	0.000
12	9.07			37964	0.000
13	10.00			130728	0.000
14	12.87			131944	0.000
15	14.00			25536	0.000
16	18.93			65872	0.000
17	21.07			26272	0.000
18	23.30			125350	0.000
19	25.43			125054	0.000
			Totals	5316908	0.000

File: 06209601.D18 Sample: LL7219-1



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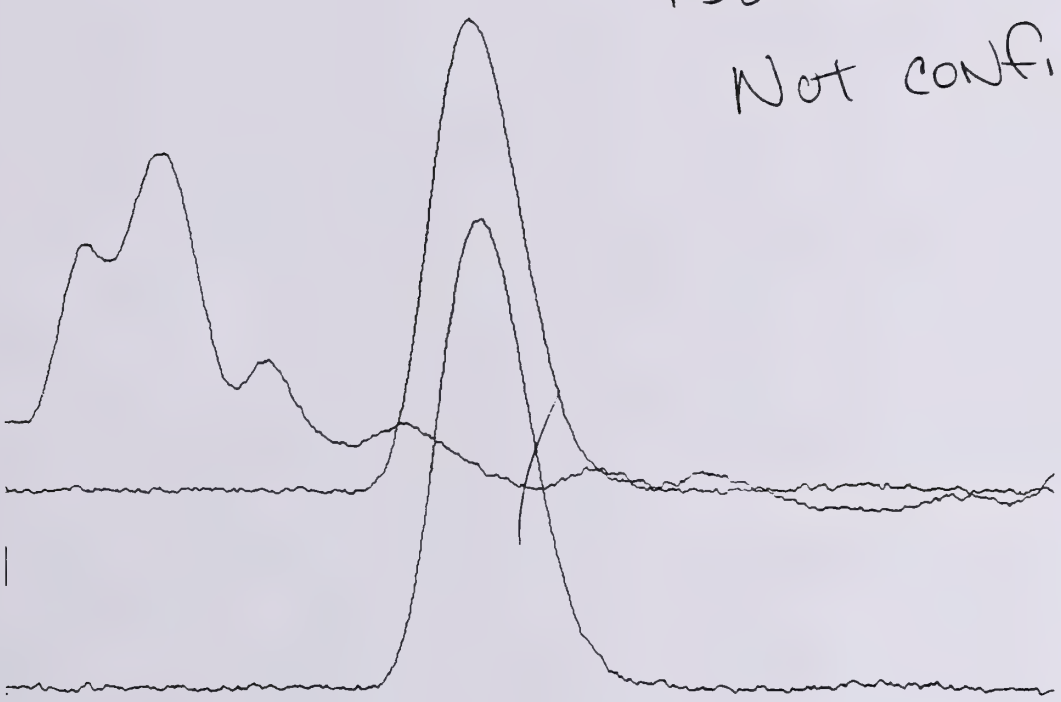

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06209601.D18

06209601.D09

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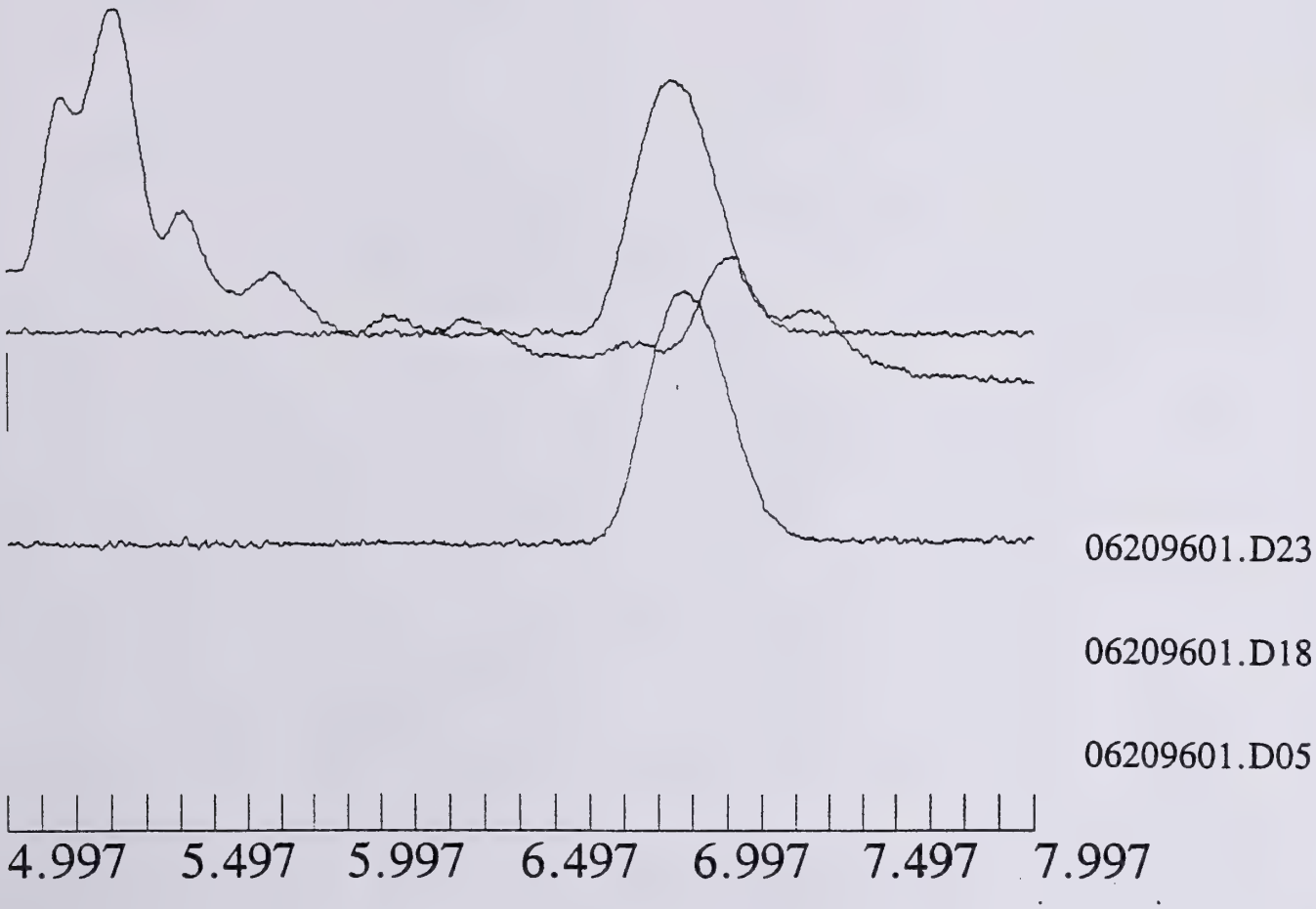
Minutes

L7219-1 4-Am

Not CONFIRMED

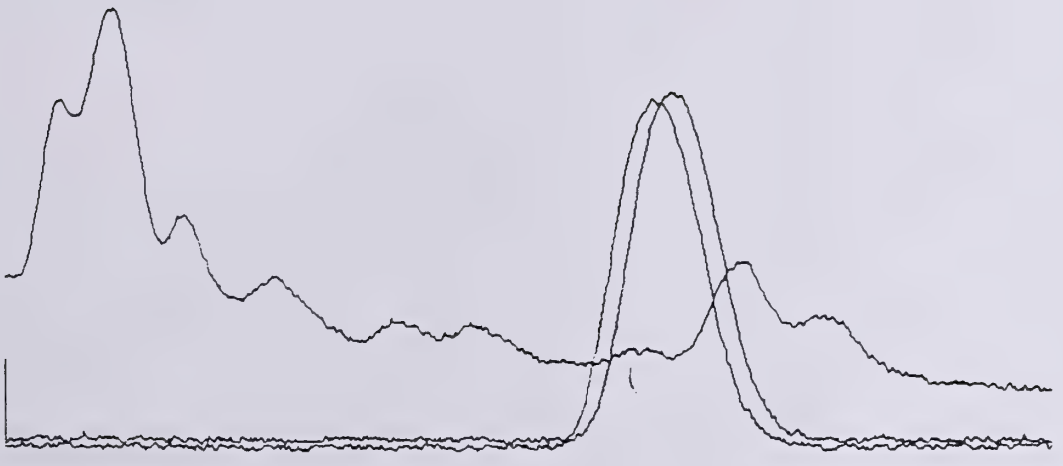


Minutes

L7219-1

2-Am

Not confirmed



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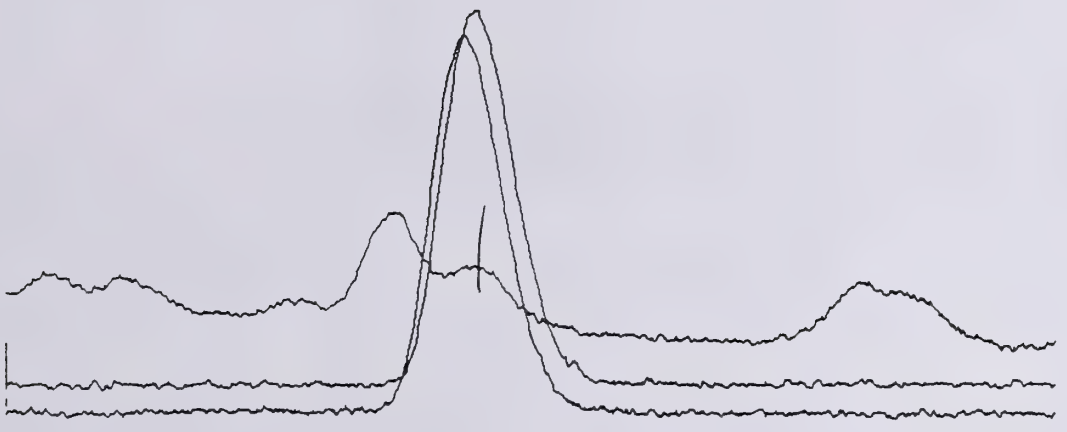
Minutes

L 7219-1 TNT

CONFIRMED ✓



06209601.D22

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06209601.D04

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Minutes

LOCKHEED MARTIN

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FAX TRANSMITTAL COVER

DATE: February 4, 1997

NUMBER OF PAGES (including cover) 4

FROM: Martin Dillon

TO: Brian Tucker

PHONE #: (617)589-1101

FAX #: (617)589-2922

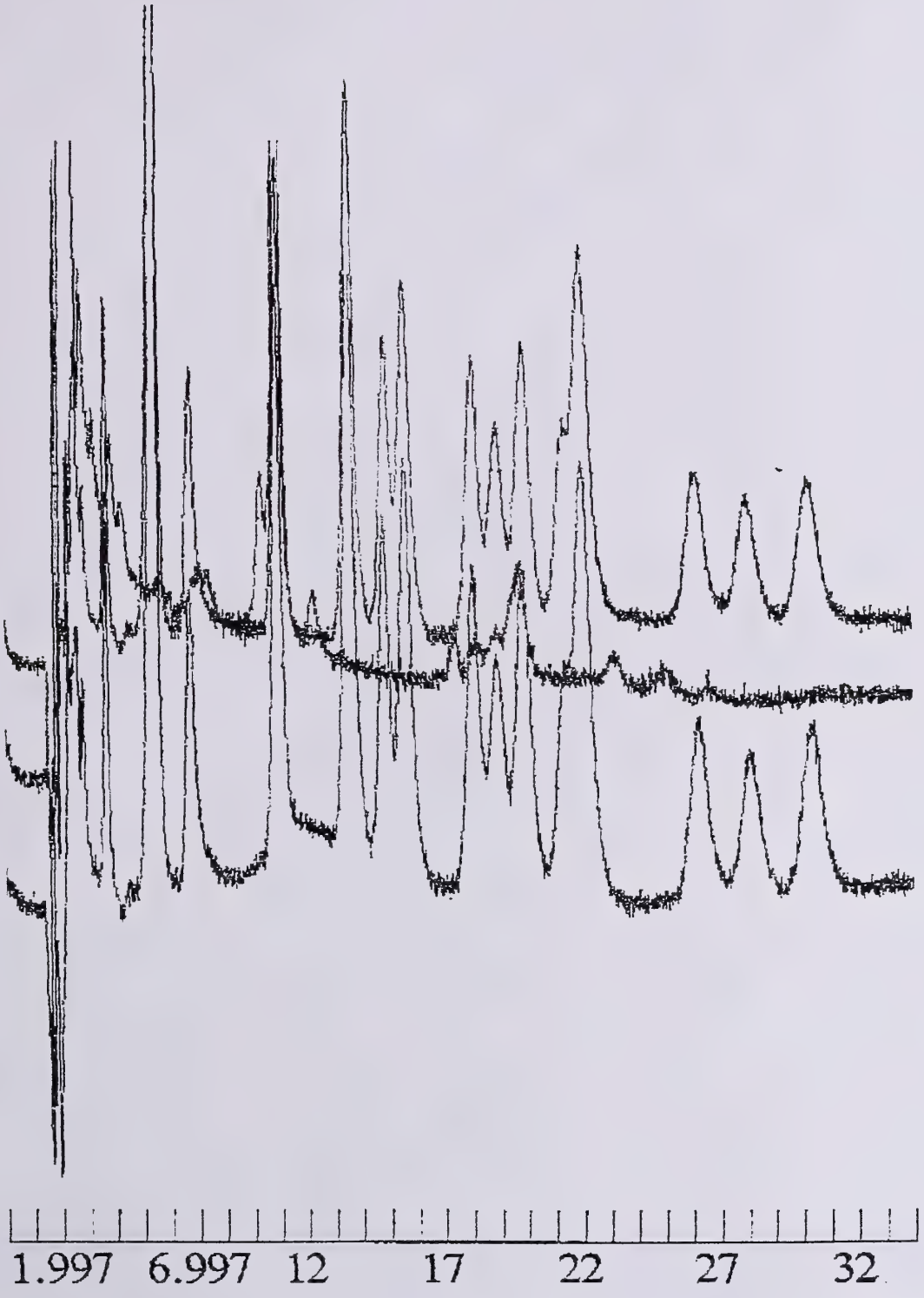
COMMENTS: Chromatograms

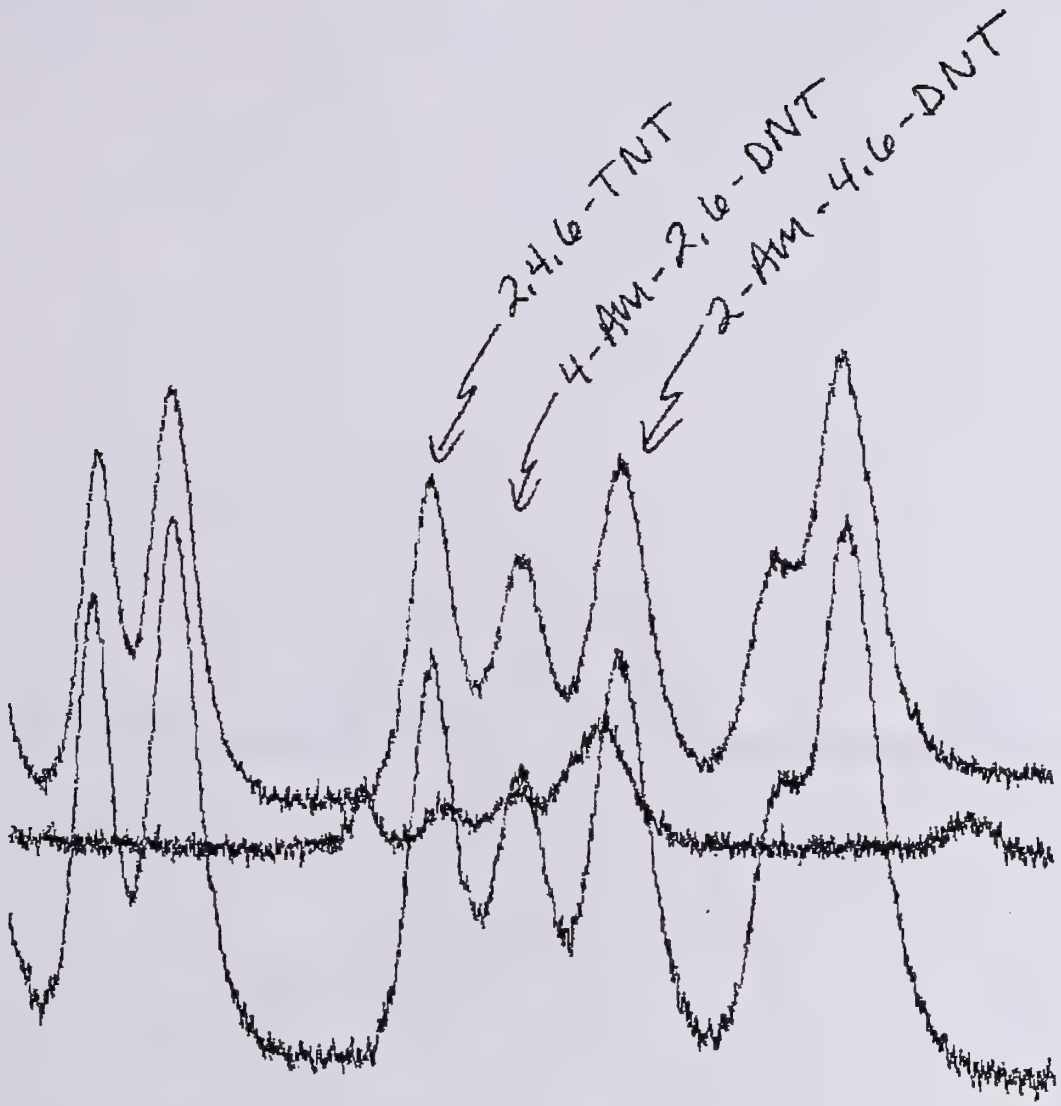
Brian,

As per our conversation this morning. These overlays include retention range of sample and bracketing CCV's, retention time range of compounds of interest of sample and CCV, and overlay of LCS, LCS Dup and sample.

Call if you need anything else,
Marty

The document accompanying this FAX may contain information that is confidential and privileged. The information is intended for use of the individual or entity to whom it is directed. If you have received this FAX in error, please notify us by telephone immediately so we can arrange for the retrieval of the documents at no cost to you.


CCV3
06219601.D30
L7219-2
06219601.D24
CCV3
06219601.D20
1.997
6.997
12
17
22
27
32
Minutes



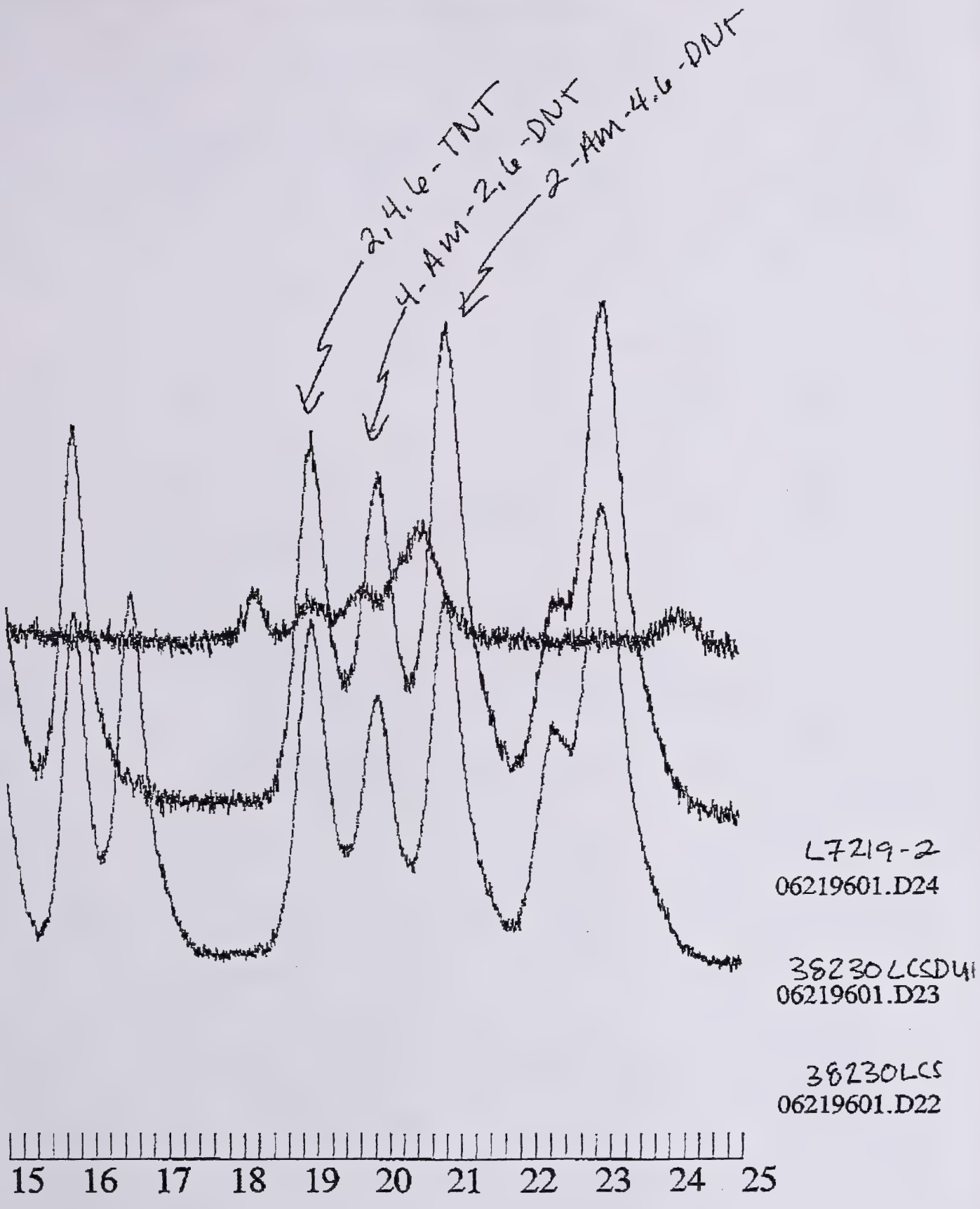
CCV3
06219601.D30

L7219-2
06219601.D24

CCV3
06219601.D20

15 16 17 18 19 20 21 22 23 24 25

Minutes


2,4,6-TNT
4-Am-2,6-DNT
2-Am-4,6-DNT
L7219-2
06219601.D24
38230LCSDUP
06219601.D23
38230LCS
06219601.D22
15
16
17
18
19
20
21
22
23
24
25
Minutes

(1)

Lockheed Analytical Services

DK 6/24/96

Data Reprocessed On 06/24/1996 10:20:17

Sample Name: L7219-2 Date: 06/21/1996 11:03:47
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d24
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 24 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

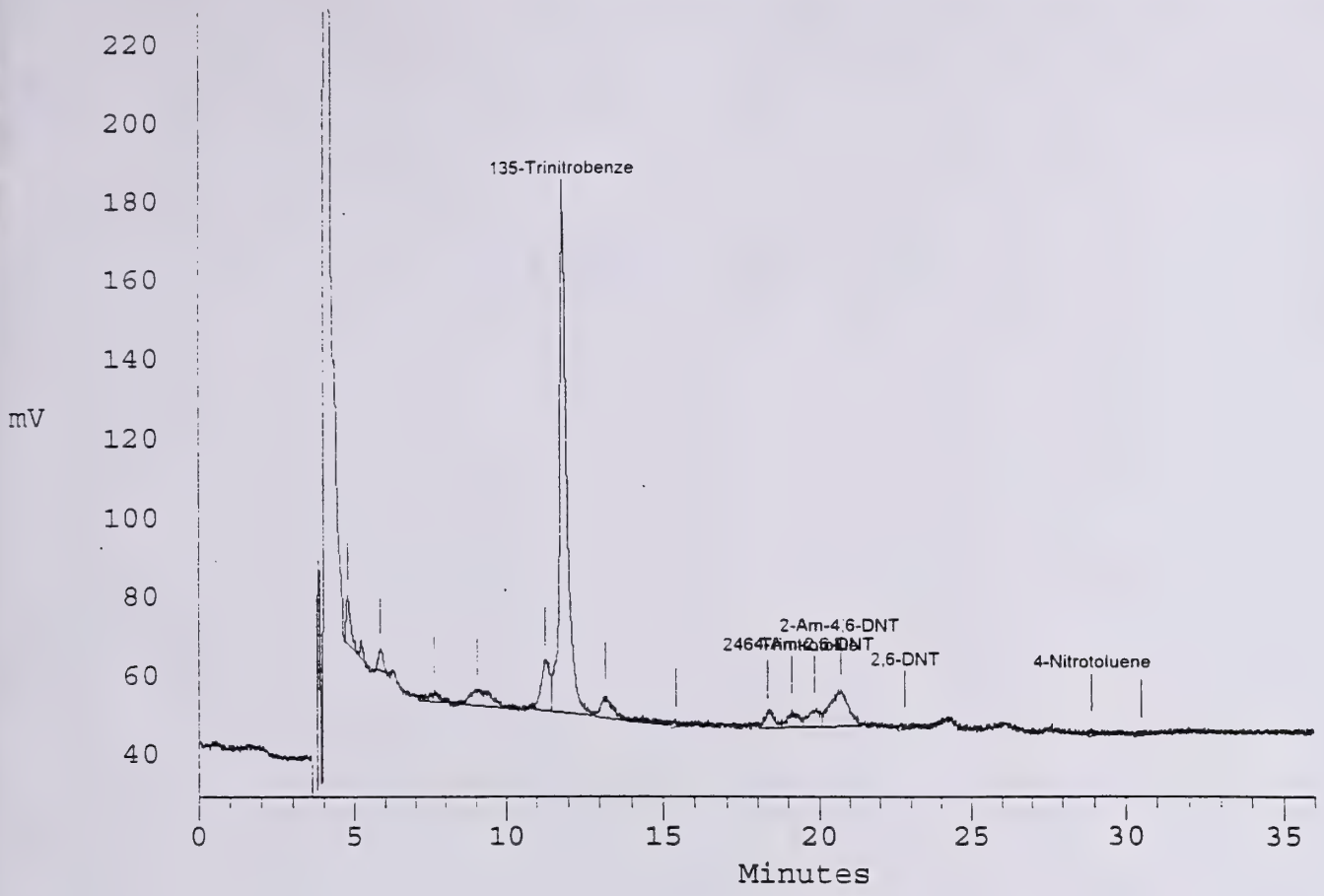
Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	4-NA**Surrogate*	0	0.000
0	0.00	0.00	RDX	0	0.000
6	11.83	0.00	135-Trinitrobenze Not confirmed	112400	2.906
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
10	19.10	0.53	246-Trinitrotolue	94634	0.163
11	19.87	0.34	4-Am 2,6-DNT Not confirmed	103498	0.216
12	20.70	-0.32	2-Am 4,6-DNT	374698	0.503
13	22.83	1.54	2,6-DNT	13346	0.032
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
14	28.93	-0.23	4-Nitrotoluene	18585	0.045
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	2717161	3.866

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.77			139220	0.000
2	5.83			51404	0.000
3	7.63			60506	0.000
4	9.07			185608	0.000
5	11.27			246260	0.000
7	13.20			174185	0.000
8	15.43			23344	0.000
9	18.33			91675	0.000
15	30.50			34761	0.000
			Totals	1006963	0.000

=> Need to confirm
Confirmed 062096-8330-HPLCA-1
Only TNT CONFIRMED

File: 06219601.d24 Sample: L7219-2



CALIBRATION DATA

061696

DIONEX METHOD PARAMETERS - 061696.MET

6/17/96

Method Comment: 0.75 ml/min 30 degrees 47/53 water/methyl alcohol, 254nm until 26 minutes then 210 nm
Column ID: ULTRACARB 5 ODS-20 250X4.6 86610
Analyst ID: D. Percy

System Parameters

System Name: GC/PID/ELCD	
Number of Detectors	1
Run Time (minutes)	36.00
Sampling Rate (seconds)	0.20
Detector 1 Type	UV/Vis
Detector 1 real time plot scale maximum (mV)	200.000
minimum	0.000
Detector 1 Output Equivalent to 1 Volt (in mV)	1000.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes
Data File Name: E:\DX\DATA\HPLCA\8330\061696\06169601.D05	

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	No
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	No
Print Unknown Peaks	Yes
Print Chromatogram	No
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	5.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	5.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Integration Parameters

Starting Peak Width (seconds)	20.0
Peak Threshold	0.800
Peak Area Reject	5000
Area Reject for Reference Peaks	1000

Data Events

Time	Description
0.00	Stop peak detection
4.62	Start peak detection

Calibration Parameters

Number Of Levels for Calibration	6
Force Calibration Curve Through Origin	Yes
Calibration Fit Type	Linear
Replace Or Average Calibrations	Average
External or Internal Calibration	External
Calculate Unknowns by Area or Height	Area
Default Sample Volume	1.0
Default Dilution Factor	1.0
Default Response Factor for Unknown Peaks	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	ug/g

Component Table -- Last Modified: 11:31 on Mon, 17 Jun 1996

Component # 1 HMX Retention Time 5.83
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.23178E-007

Level	Amount	Area	Height
1	2.00000E-002	49629	4179
2	4.00000E-002	117295	9277
3	1.00000E-001	358244	27466
4	2.50000E-001	810424	62397
5	5.00000E-001	1610878	114891
6	8.00000E-001	2413819	190448

Component # 2 4-NA**Surrogate* Retention Time 7.63
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.79672E-007

Level	Amount	Area	Height
1	8.00000E-002	301995	13029
2	2.00000E-001	743106	28270
3	5.00000E-001	1945659	87985
4	1.26000E+000	4646437	189702
5	2.52000E+000	9417499	372897
6	4.02000E+000	14030403	567220

Component # 3 RDX Retention Time 9.00
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.41231E-007

Level	Amount	Area	Height
1	2.00000E-002	134077	3495
2	4.00000E-002	219234	7406
3	1.00000E-001	490243	20773
4	2.50000E-001	1158574	46361
5	5.00000E-001	2213454	87614
6	8.00000E-001	3155040	133315

Component # 4 135-Trinitrobenze Retention Time 12.23
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.09091E-007

Level	Amount	Area	Height
1	2.00000E-002	174476	6693
2	4.00000E-002	361005	14845
3	1.00000E-001	1040768	43990
4	2.50000E-001	2452846	98033
5	5.00000E-001	4808187	193886
6	8.00000E-001	7107933	284892

Component # 5 1,3-Dinitrobenzen Retention Time 15.03
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 7.37757E-008

Level	Amount	Area	Height
1	2.00000E-002	206967	7132
2	4.00000E-002	561395	17810
3	1.00000E-001	1447042	50185
4	2.50000E-001	3584473	116960
5	5.00000E-001	7121687	229215
6	8.00000E-001	10531811	344370

Component # 6 Tetryl Retention Time 16.40
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.43096E-007

Level	Amount	Area	Height
1	2.00000E-002	107055	4232
2	4.00000E-002	279891	10588
3	1.00000E-001	769102	28004
4	2.50000E-001	1887586	66473
5	5.00000E-001	3733955	129280
6	8.00000E-001	5364862	189589

Component # 7 Nitrobenzene Retention Time 17.17
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.00266E-007

Level	Amount	Area	Height
1	2.00000E-002	123600	3788
2	4.00000E-002	382227	10131
3	1.00000E-001	1047731	32298
4	2.50000E-001	2618688	76928
5	5.00000E-001	5180297	151382
6	8.00000E-001	7803518	225047

Component # 8 Nitroglycerin Retention Time 17.88
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.61168E-007

Level	Amount	Area	Height
1	1.00000E-001	117279	5114
2	2.00000E-001	265272	11035
3	5.00000E-001	754044	33773
4	1.00000E+000	5068236	125577
5	1.50000E+000	5430091	210016
6	2.00000E+000	7163642	276725

Component # 9 246-Trinitrotolue Retention Time 19.70
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.32465E-007

Level	Amount	Area	Height
1	2.00000E-002	133799	3938
2	4.00000E-002	285527	8060
3	1.00000E-001	893280	25709
4	2.50000E-001	1962217	57403
5	5.00000E-001	3975095	115348
6	8.00000E-001	5858282	169657

Component # 10 4-Am-2,6-DNT Retention Time 20.63
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.66152E-007

Level	Amount	Area	Height
1	2.00000E-002	121375	3678
2	4.00000E-002	216969	6091
3	1.00000E-001	601327	17711
4	2.50000E-001	1586935	40119
5	5.00000E-001	3170589	79045
6	8.00000E-001	4678779	120140

Component # 11 2-Am-4,6-DNT Retention Time 21.63
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.06563E-007

Level	Amount	Area	Height
1	2.00000E-002	159121	4584
2	4.00000E-002	382726	8543
3	1.00000E-001	1049761	25044
4	2.50000E-001	2449461	56520
5	5.00000E-001	4862037	110636
6	8.00000E-001	7344614	168284

Component # 12 2,6-DNT Retention Time 23.23
Reference Comp. none Window Size 0.40 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.86321E-007

Level	Amount	Area	Height
1	2.00000E-002	108776	3798
2	4.00000E-002	234889	7566
3	1.00000E-001	594880	18328
4	2.50000E-001	1378844	44549
5	5.00000E-001	2632948	87645
6	8.00000E-001	4303573	130331

Component # 13 2,4-DNT Retention Time 23.83
Reference Comp. none Window Size 0.40 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 7.56342E-008

Level	Amount	Area	Height
1	2.00000E-002	259697	5048
2	4.00000E-002	501482	11755
3	1.00000E-001	1381287	33282
4	2.50000E-001	3543436	46414
5	5.00000E-001	6994269	156180
6	8.00000E-001	10225903	235205

Component # 14 2-Nitrotoluene Retention Time 28.23
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.64050E-007

Level	Amount	Area	Height
1	2.00000E-002	115602	2672
2	4.00000E-002	208026	5182
3	1.00000E-001	583427	13251
4	2.50000E-001	1628919	31734
5	5.00000E-001	3119837	63221
6	8.00000E-001	4799002	97220

Component # 15 4-Nitrotoluene Retention Time 30.17
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.87046E-007

Level	Amount	Area	Height
1	2.00000E-002	112518	2473
2	4.00000E-002	176175	3535
3	1.00000E-001	576433	11198
4	2.50000E-001	1381526	26875
5	5.00000E-001	2786136	51922
6	8.00000E-001	4182592	79688

Component # 16 3-Nitrotoluene Retention Time 32.53
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.51321E-007

Level	Amount	Area	Height
1	2.00000E-002	117514	2775
2	4.00000E-002	236486	4042
3	1.00000E-001	684327	13263
4	2.50000E-001	1642996	30432
5	5.00000E-001	3501307	62736
6	8.00000E-001	5154298	92399

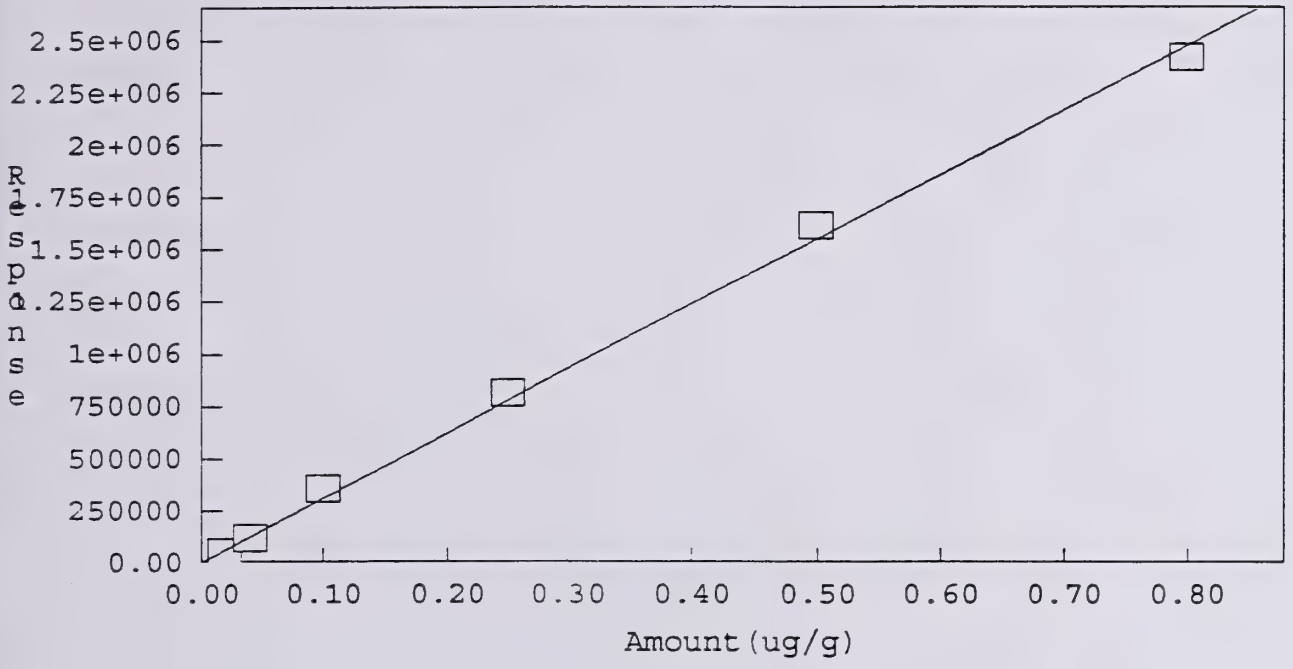
Component # 17 PETN Retention Time 34.39
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.76829E-007

Level	Amount	Area	Height
1	1.00000E-001	17036	1641
2	2.00000E-001	812881	17888
3	5.00000E-001	2033058	39305
4	1.00000E+000	43302	1311
5	1.50000E+000	65710	588
6	2.00000E+000	7221545	157075

-Method Updated: 11:31 on Mon, 17 Jun 1996

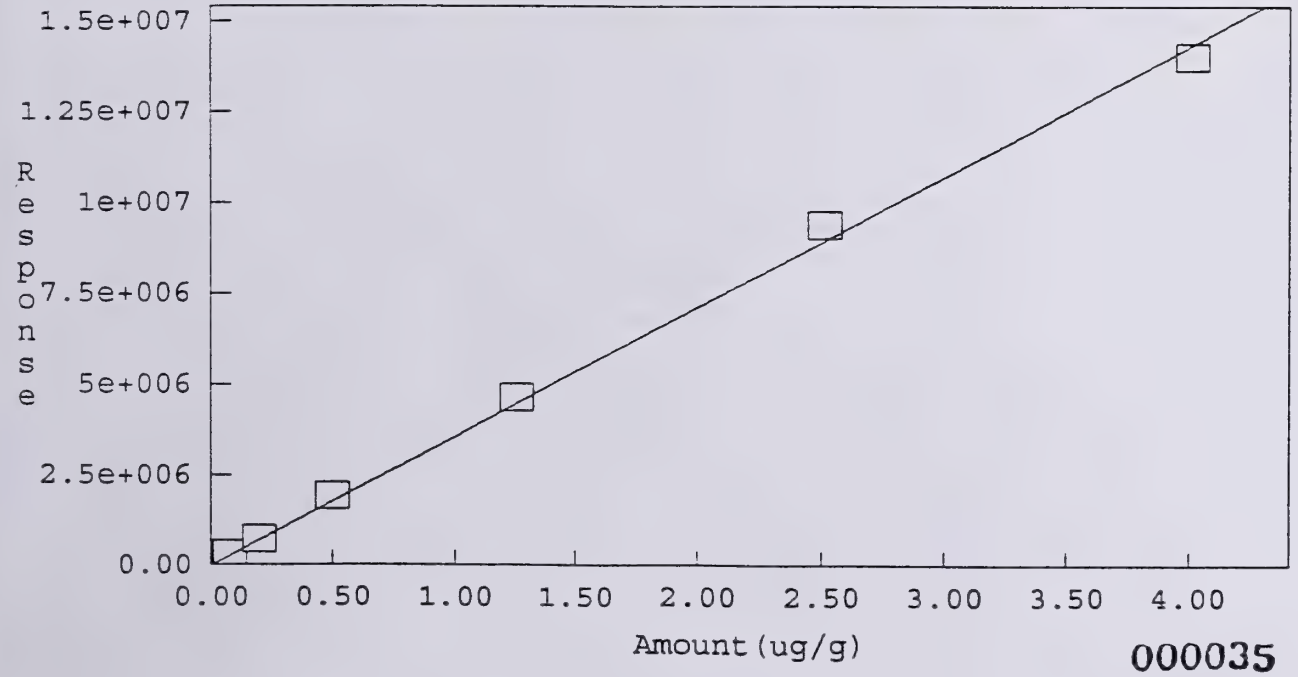
DP 6/17/96

Component: HMX
Fit Type: Linear
r^2 = 0.997419
Amt = Resp * 3.232e-007 + 0
Resp = Amt * 3.094e+006 + 0
Standardization: External
Calibration: Area



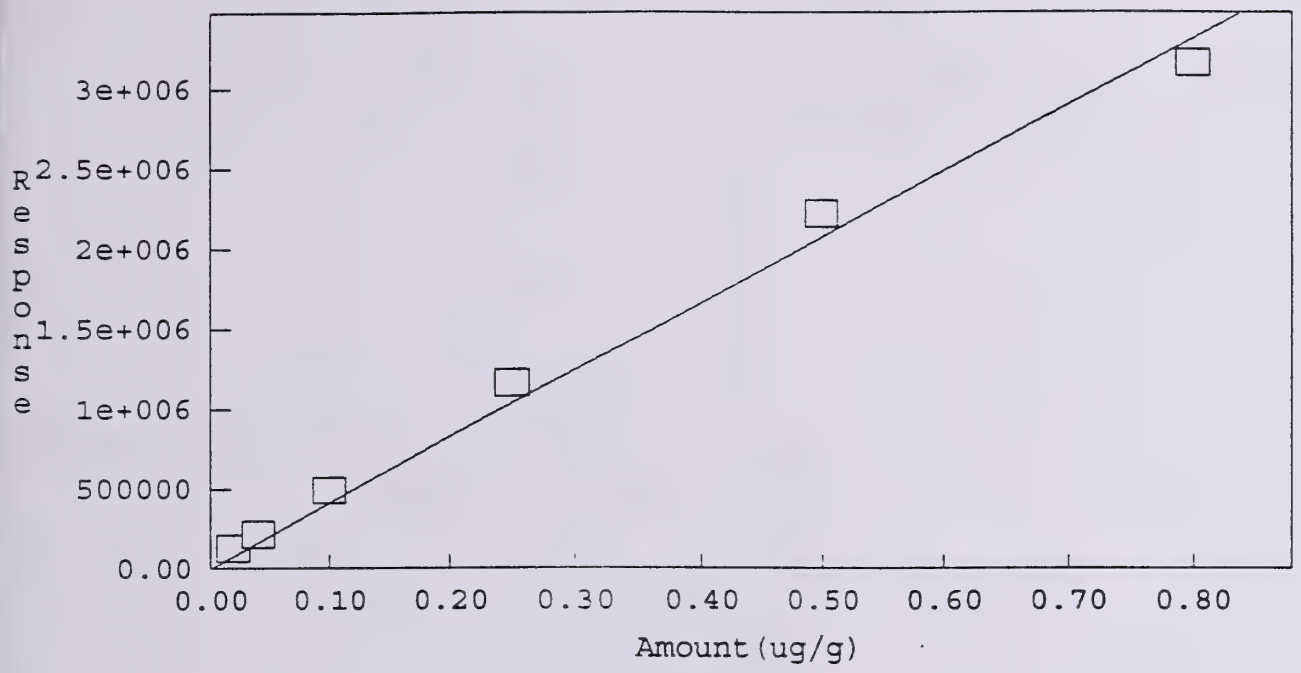
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 4-NA**Surrogate*
Fit Type: Linear
r^2 = 0.997874
Amt = Resp * 2.797e-007 + 0
Resp = Amt * 3.576e+006 + 0
Standardization: External
Calibration: Area



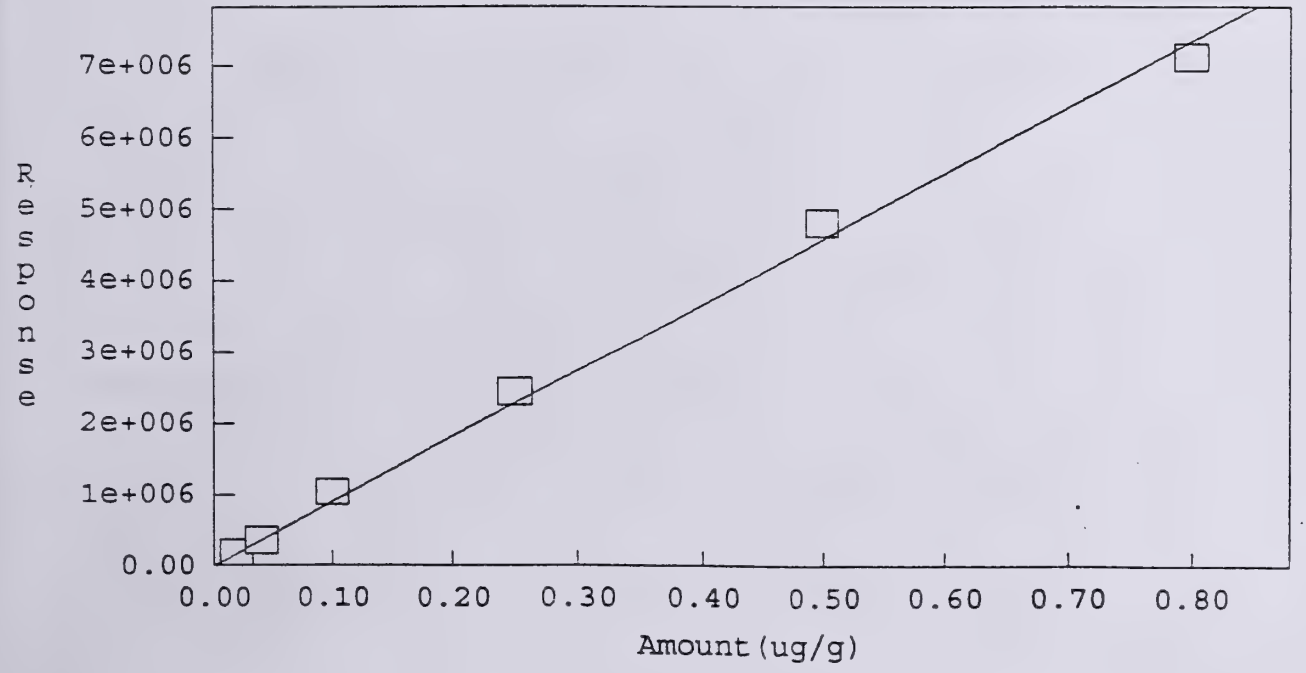
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: RDX
Fit Type: Linear
r^2 = 0.991223
Amt = Resp * 2.412e-007 + 0
Resp = Amt * 4.145e+006 + 0
Standardization: External
Calibration: Area



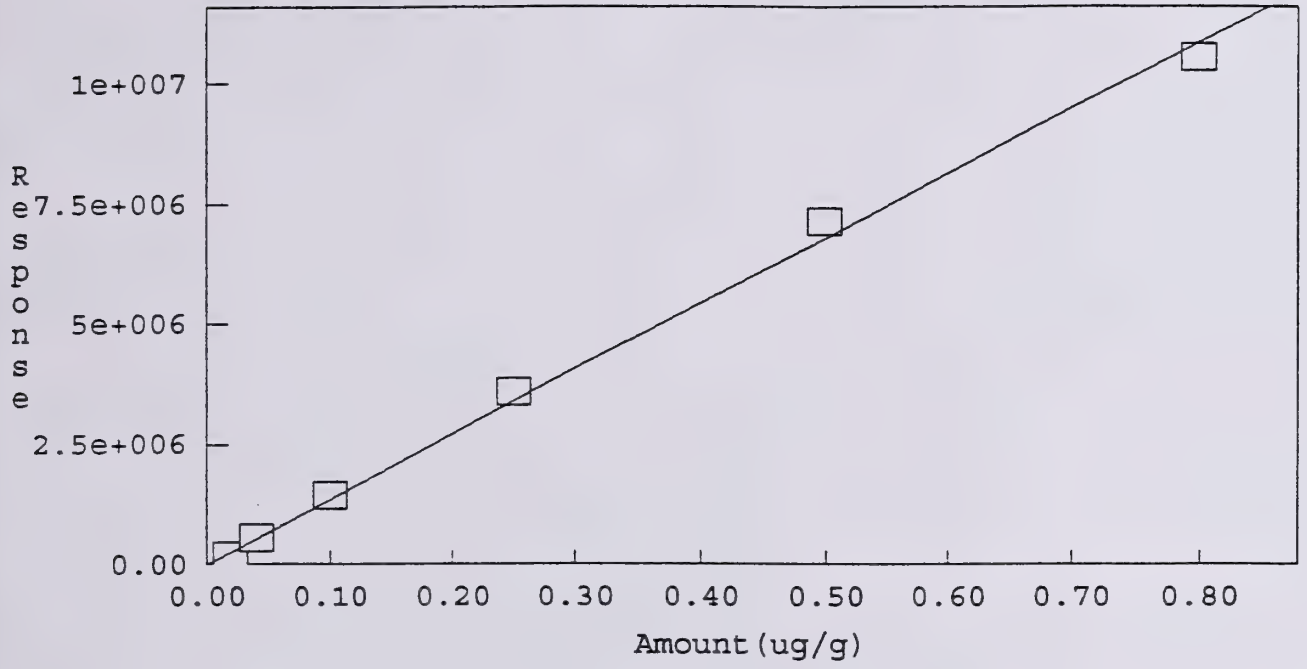
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 135-Trinitrobenze
Fit Type: Linear
r^2 = 0.996437
Amt = Resp * 1.091e-007 + 0
Resp = Amt * 9.167e+006 + 0
Standardization: External
Calibration: Area



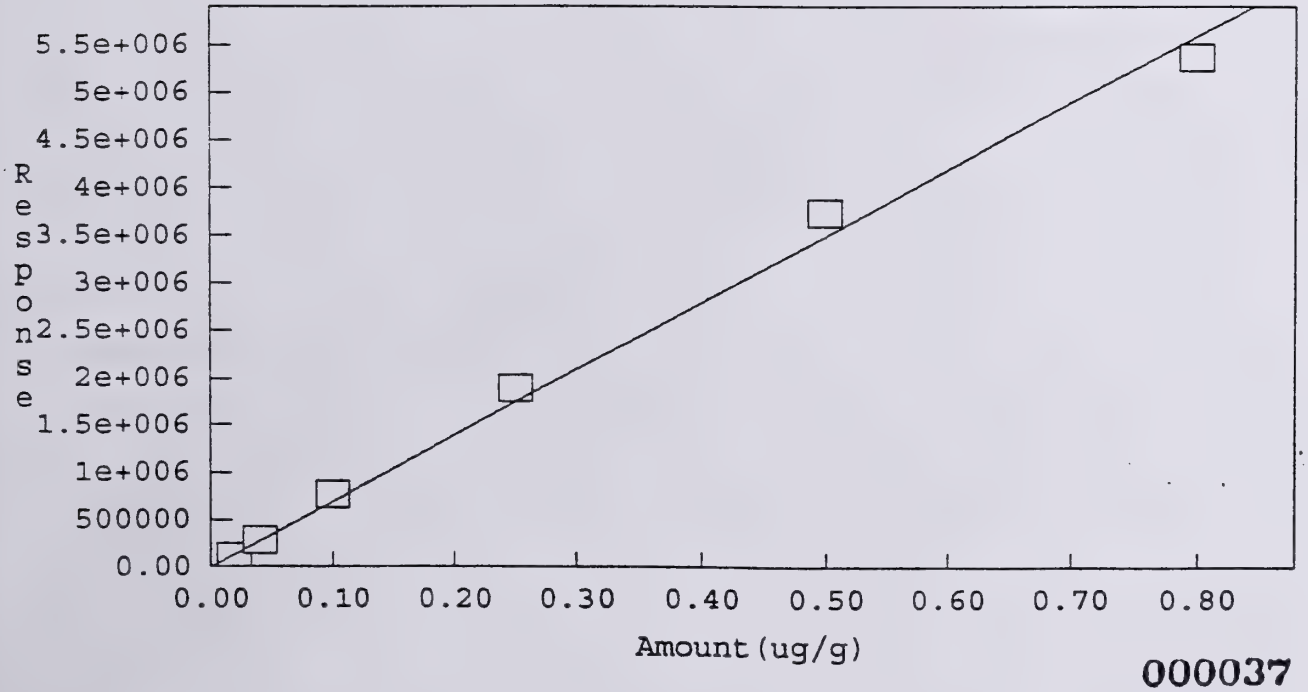
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 1,3-Dinitrobenzen
Fit Type: Linear
r^2 = 0.996953
Amt = Resp * 7.378e-008 + 0
Resp = Amt * 1.355e+007 + 0
Standardization: External
Calibration: Area



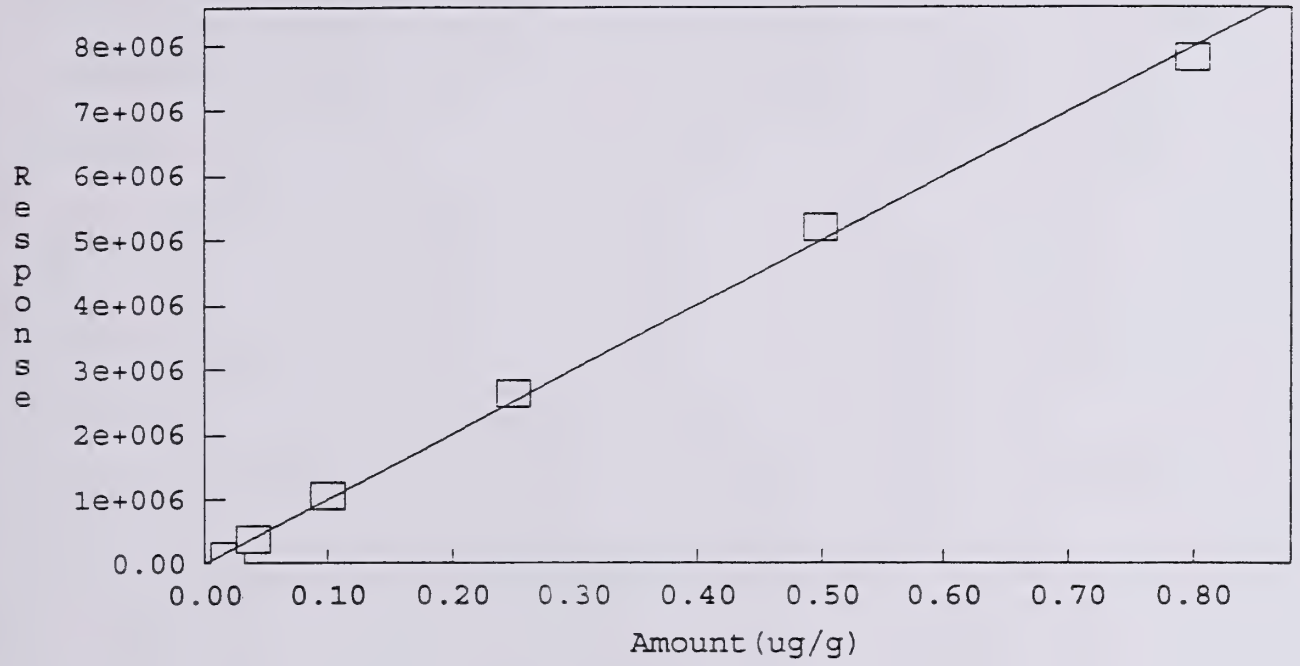
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: Tetryl
Fit Type: Linear
r^2 = 0.994239
Amt = Resp * 1.431e-007 + 0
Resp = Amt * 6.988e+006 + 0
Standardization: External
Calibration: Area



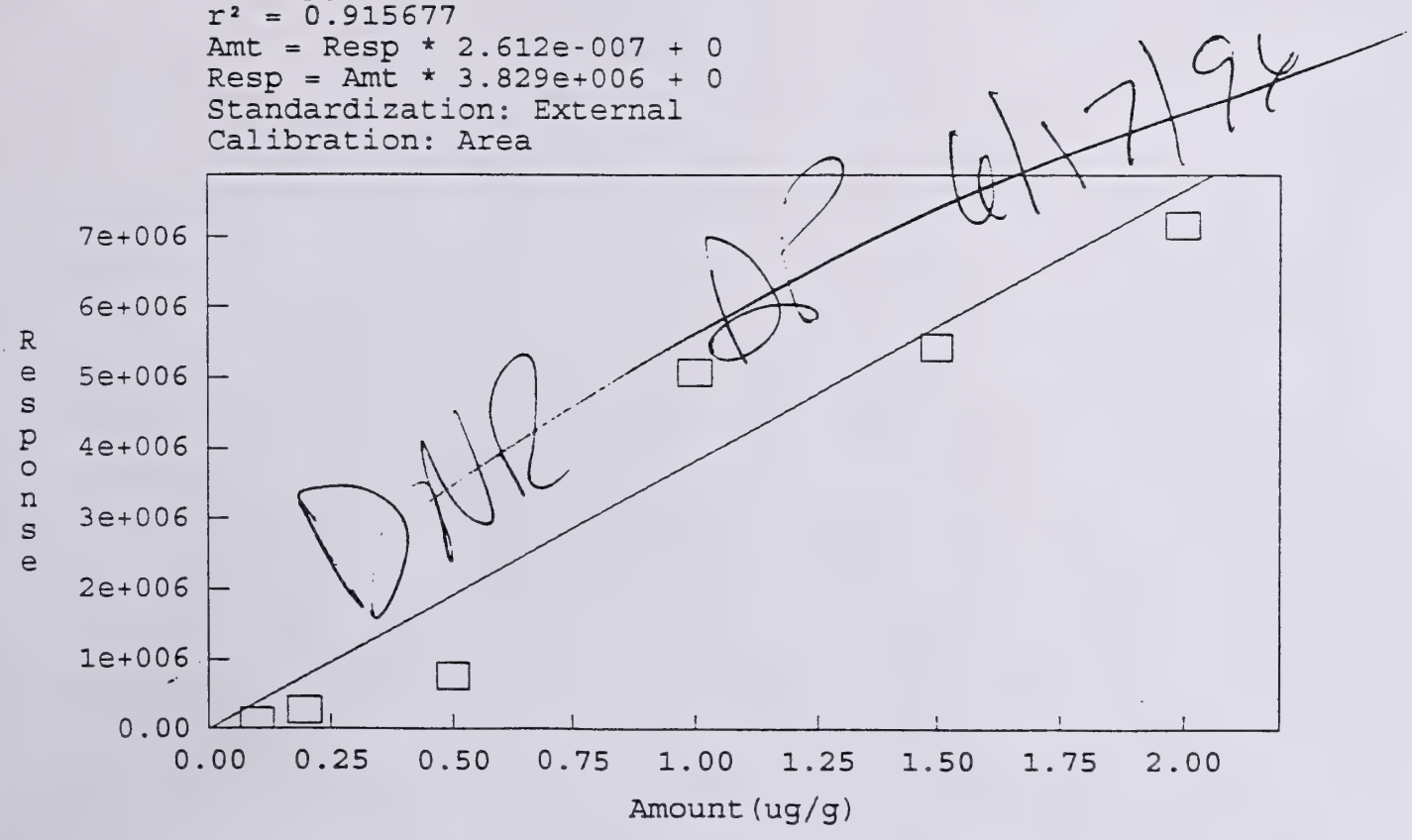
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: Nitrobenzene
Fit Type: Linear
r^2 = 0.998052
Amt = Resp * 1.003e-007 + 0
Resp = Amt * 9.973e+006 + 0
Standardization: External
Calibration: Area



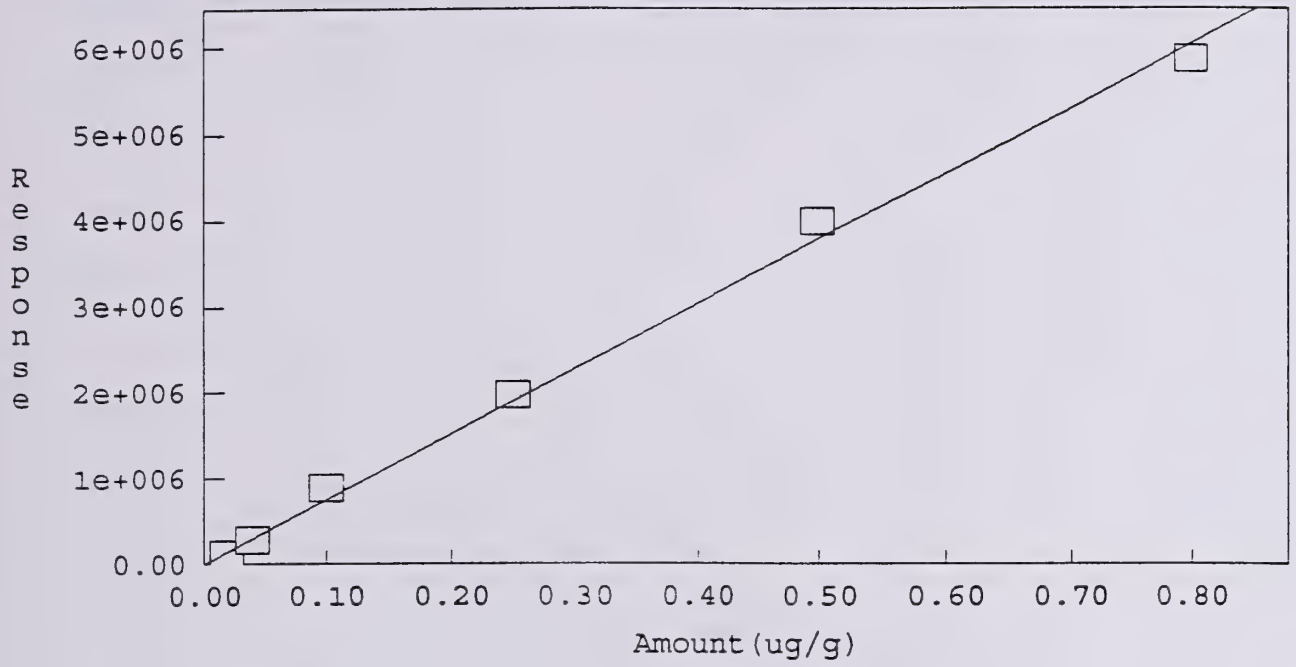
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: Nitroglycerin
Fit Type: Linear
r^2 = 0.915677
Amt = Resp * 2.612e-007 + 0
Resp = Amt * 3.829e+006 + 0
Standardization: External
Calibration: Area



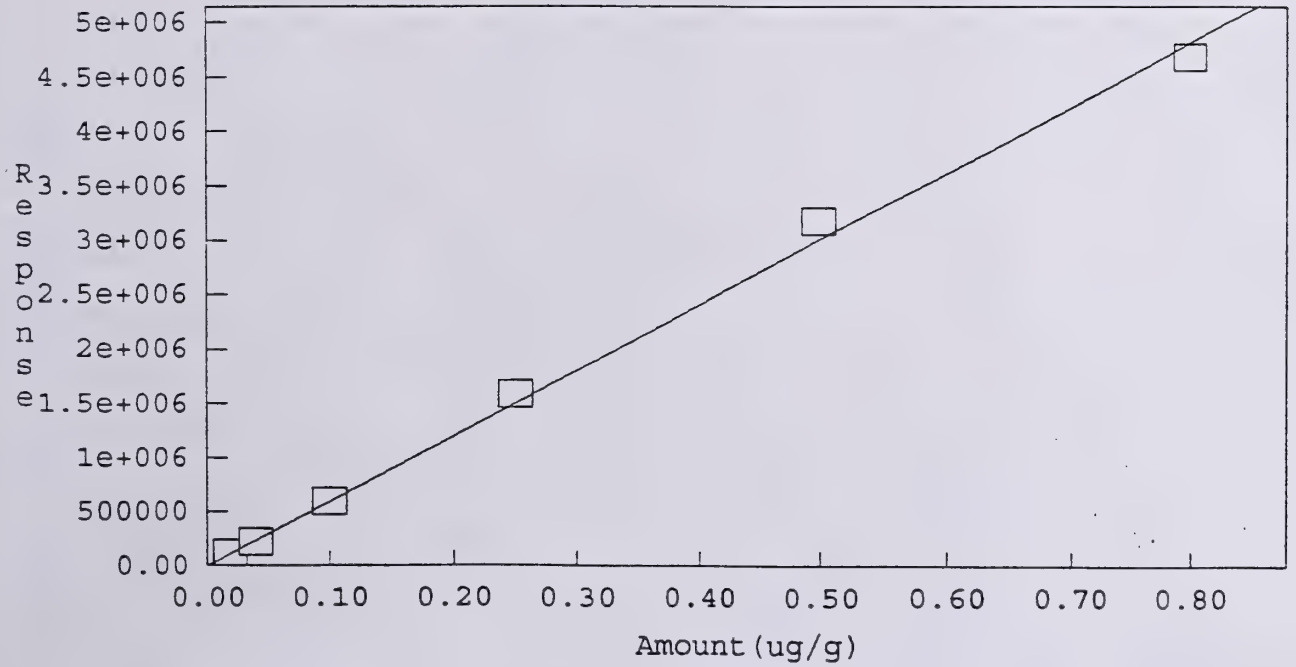
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 246-Trinitrotolue
Fit Type: Linear
r^2 = 0.996385
Amt = Resp * 1.325e-007 + 0
Resp = Amt * 7.549e+006 + 0
Standardization: External
Calibration: Area



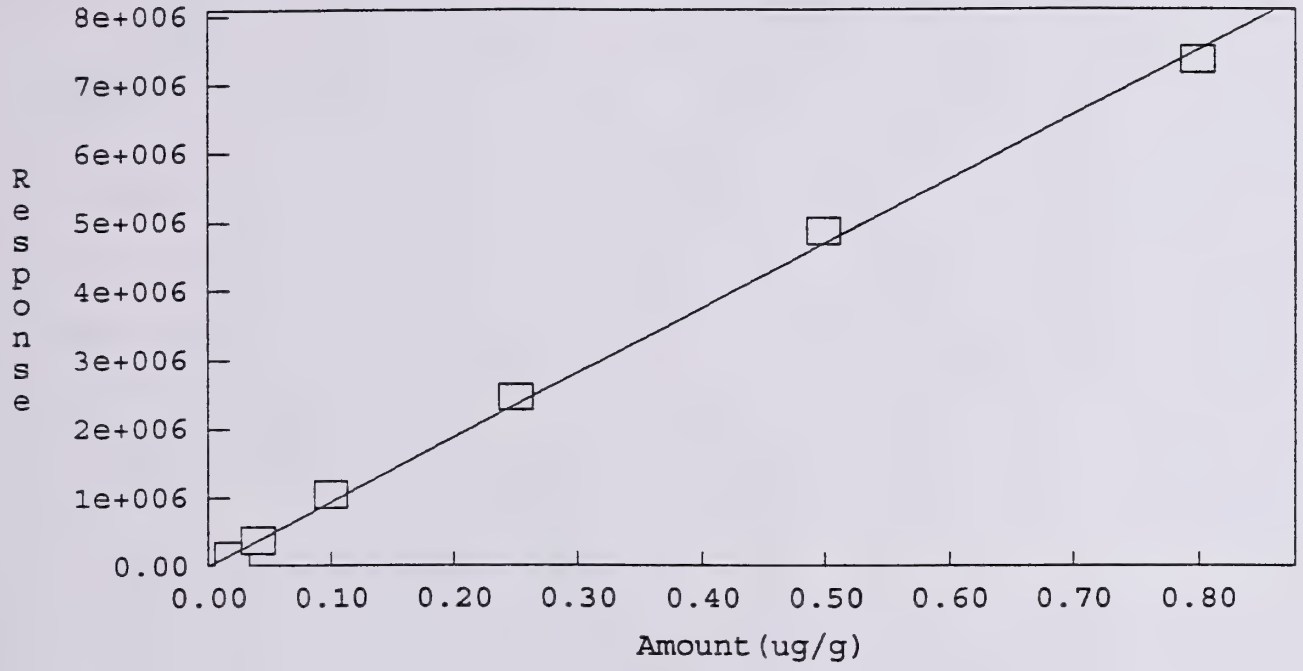
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 4-Am-2,6-DNT
Fit Type: Linear
r^2 = 0.996999
Amt = Resp * 1.662e-007 + 0
Resp = Amt * 6.019e+006 + 0
Standardization: External
Calibration: Area



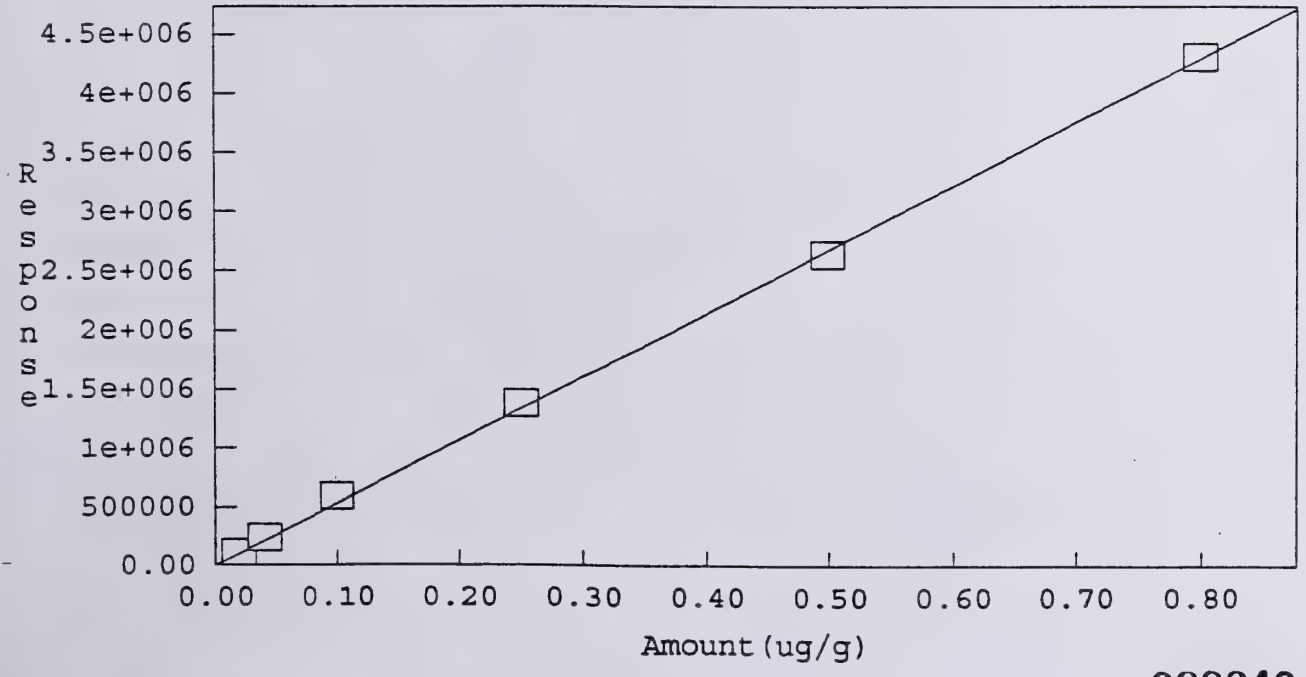
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 2-Am-4,6-DNT
Fit Type: Linear
r^2 = 0.998112
Amt = Resp * 1.066e-007 + 0
Resp = Amt * 9.384e+006 + 0
Standardization: External
Calibration: Area



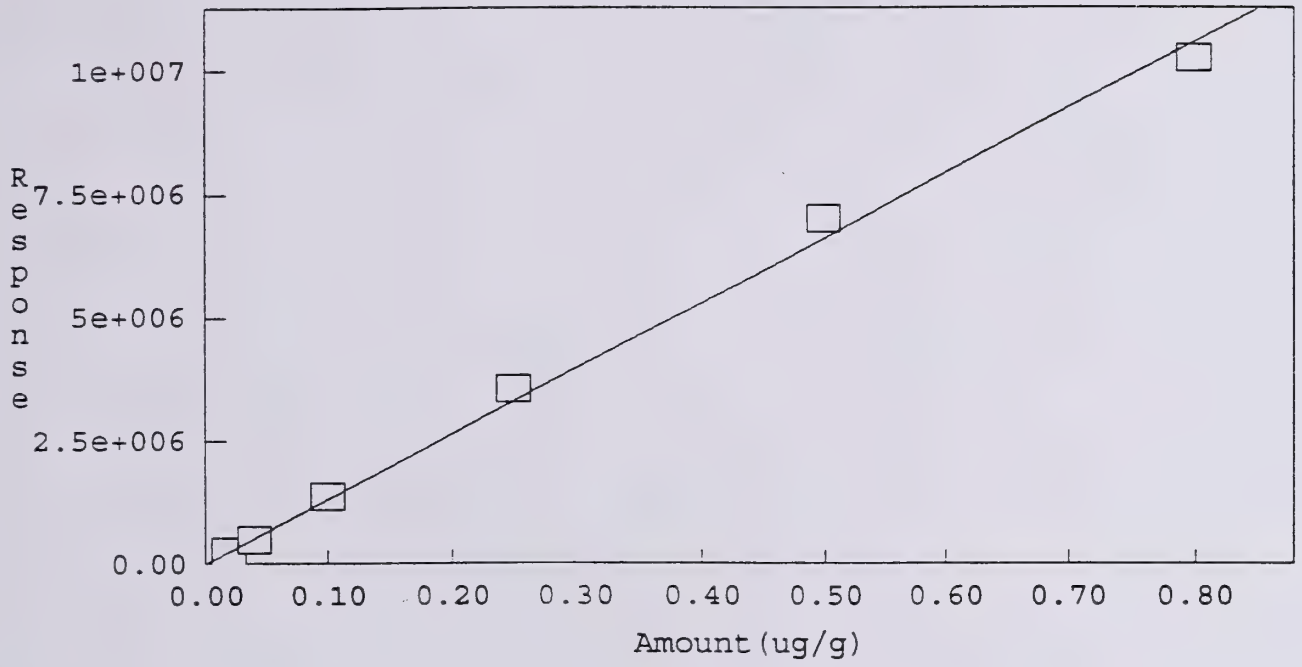
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 2,6-DNT
Fit Type: Linear
r^2 = 0.999431
Amt = Resp * 1.863e-007 + 0
Resp = Amt * 5.367e+006 + 0
Standardization: External
Calibration: Area



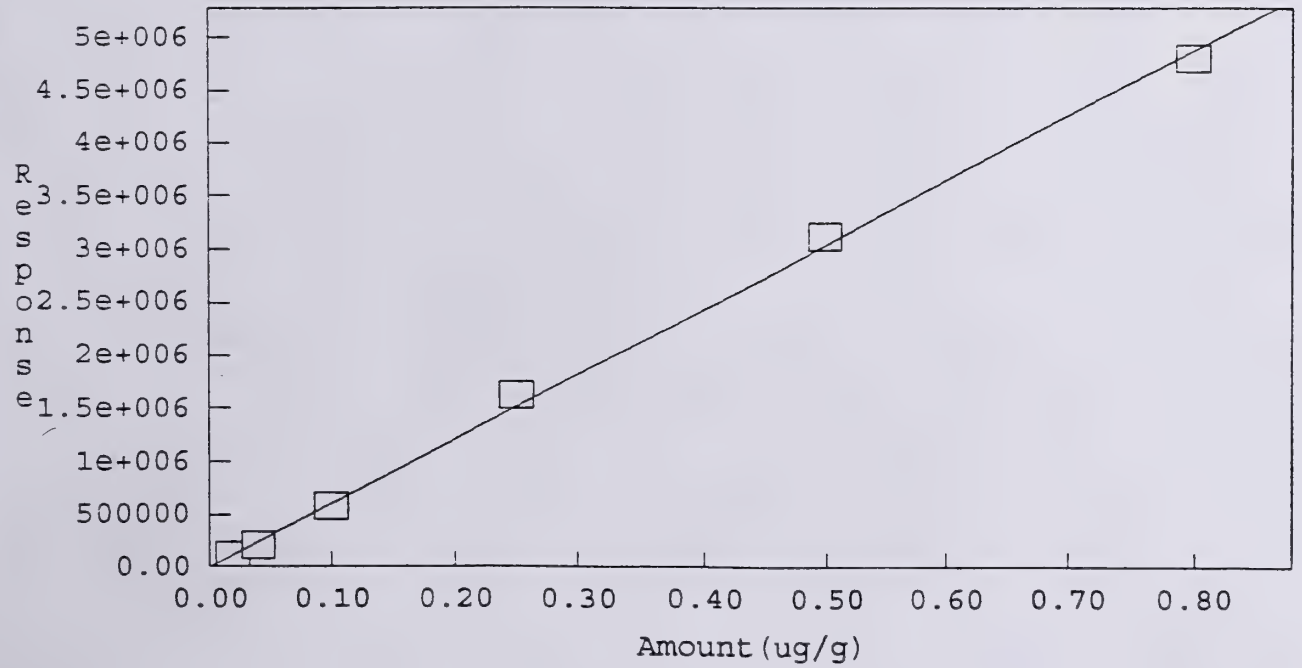
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 2,4-DNT
Fit Type: Linear
r^2 = 0.996026
Amt = Resp * 7.563e-008 + 0
Resp = Amt * 1.322e+007 + 0
Standardization: External
Calibration: Area



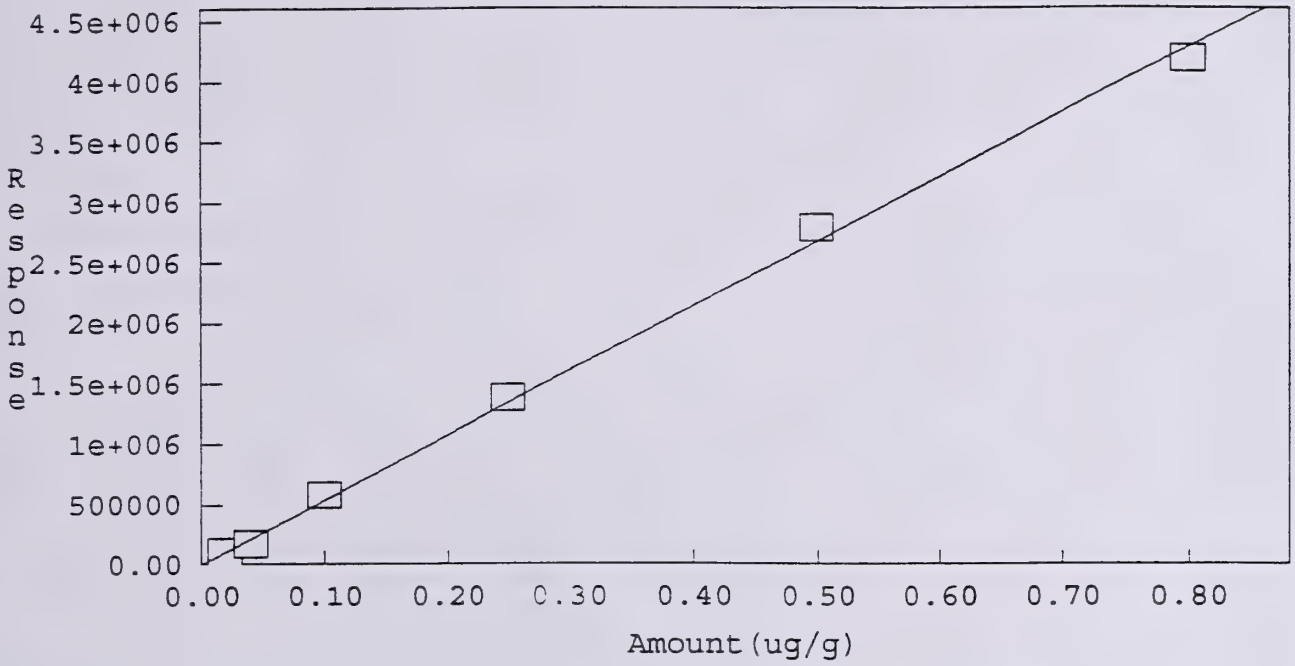
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 2-Nitrotoluene
Fit Type: Linear
r^2 = 0.998634
Amt = Resp * 1.641e-007 + 0
Resp = Amt * 6.096e+006 + 0
Standardization: External
Calibration: Area



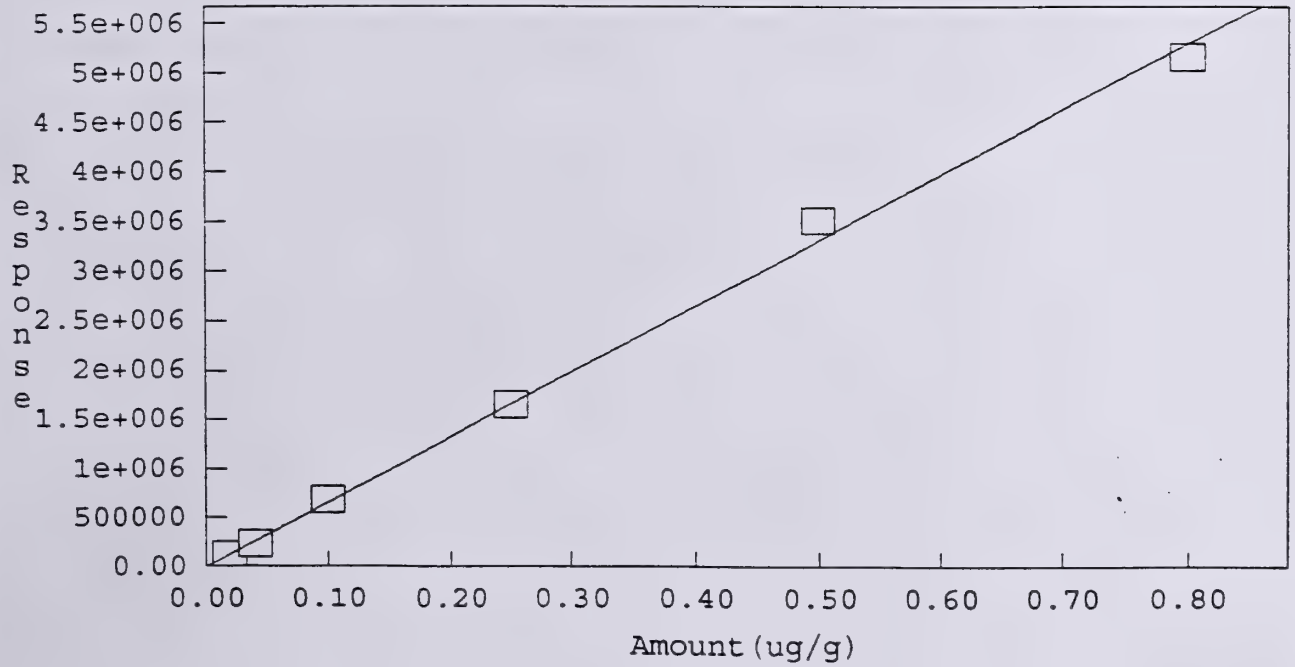
Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 4-Nitrotoluene
Fit Type: Linear
r^2 = 0.998027
Amt = Resp * 1.87e-007 + 0
Resp = Amt * 5.346e+006 + 0
Standardization: External
Calibration: Area



Method: E:\DX\METHOD\HPLCA\8330\061696.MET

Component: 3-Nitrotoluene
Fit Type: Linear
r^2 = 0.997216
Amt = Resp * 1.513e-007 + 0
Resp = Amt * 6.608e+006 + 0
Standardization: External
Calibration: Area



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Data Reprocessed On 06/17/1996 11:51:48

```
Sample Name: IB                                   Date: 06/16/1996 13:47:05
Data File  : E:\DX\DATA\HPLCA\8330\061696\06169601.d01
Method     : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1  System: 1  Inject#: 1                    Detector:UV/Vis
Analyst    : D. Percy       Column: ULTRACARB 5 ODS-20 250X4.6 86610
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

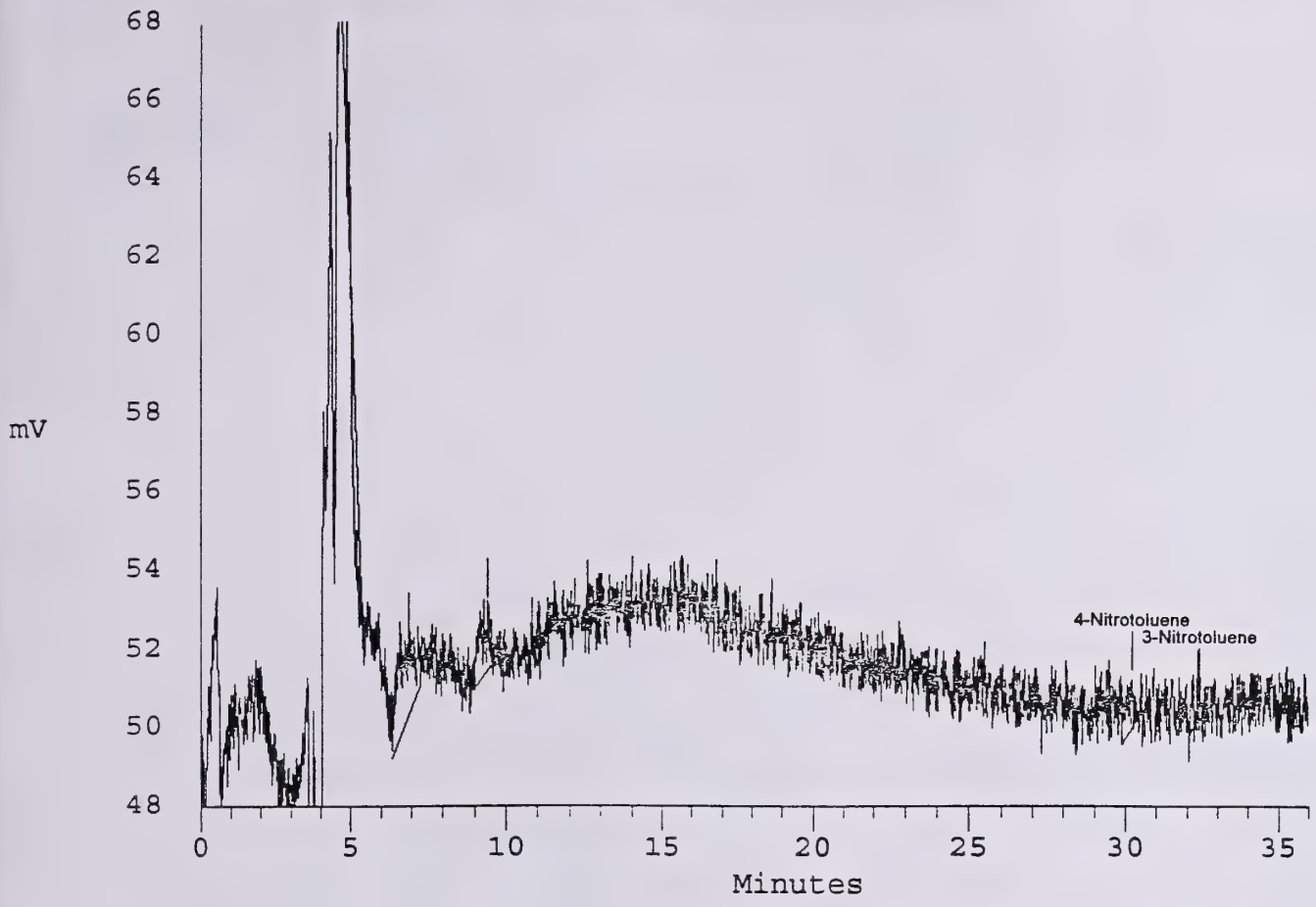
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	4-NA**Surrogate*	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
0	0.00	0.00	4-Am-2,6-DNT	0	0.000
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
4	30.20	0.11	4-Nitrotoluene	20327	0.004
5	32.40	-0.41	3-Nitrotoluene	12334	0.002
0	0.00	0.00	PETN	0	0.000
			Totals	32662	0.006

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.70			60839	0.000
2	6.90			78392	0.000
3	9.43			33455	0.000
			Totals	172685	0.000

File: 06169601.d01 Sample: IB



Lockheed Analytical Services

Data Reprocessed On 06/17/1996 11:30:53

```
Sample Name: AUTOCAL1R                          Date: 06/16/1996 14:25:20
Data File  : E:\DX\DATA\HPLCA\8330\061696\06169601.d02
Method     : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1  System: 1  Inject#: 2                    Detector:UV/Vis
Analyst    : D. Percy       Column: ULTRACARB 5 ODS-20 250X4.6 86610
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

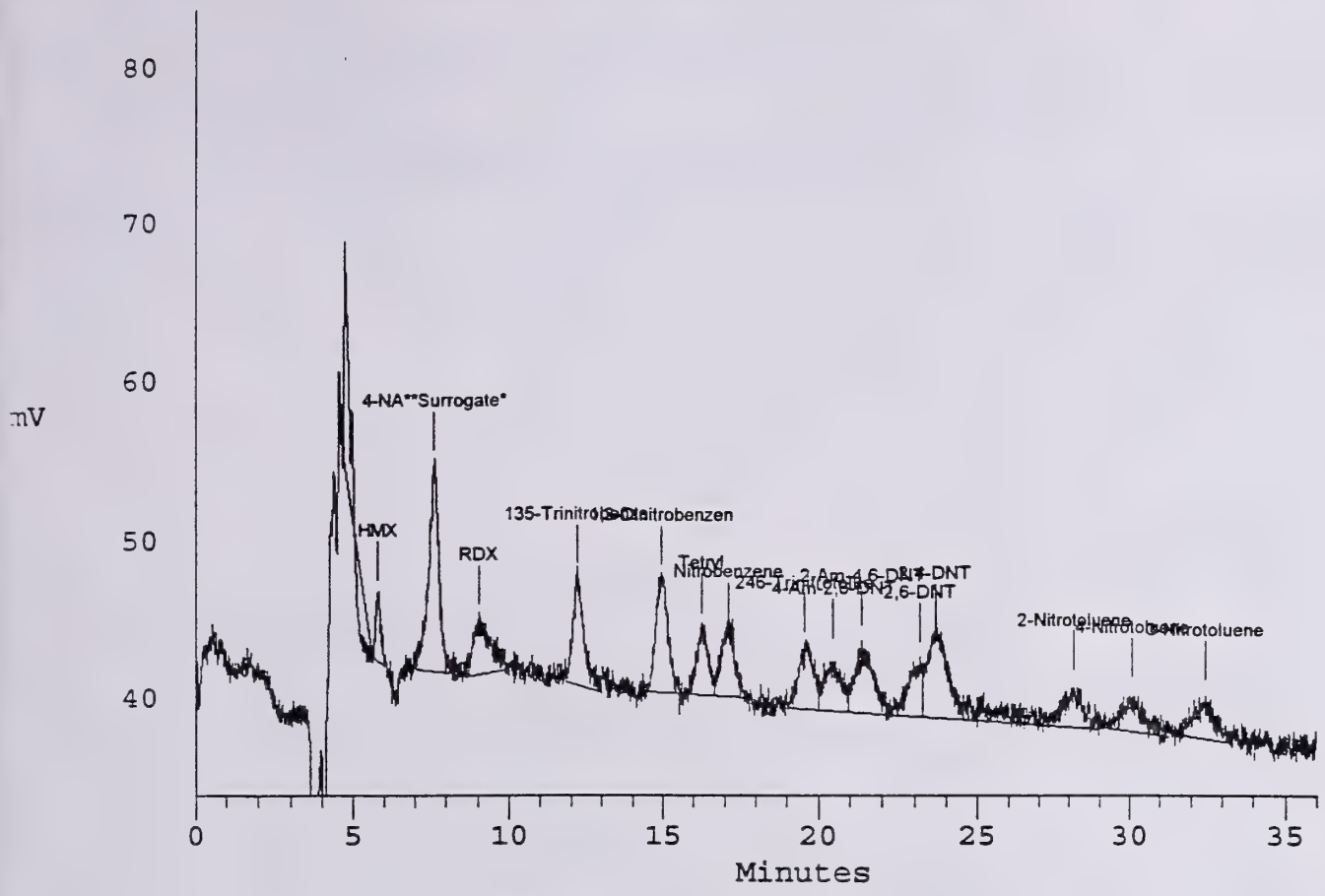
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.80	-0.57	HMX	49629	0.020
3	7.63	0.00	4-NA**Surrogate*	301995	0.080
4	9.03	0.37	RDX	134077	0.020
5	12.20	-0.27	135-Trinitrobenze	174476	0.020
6	14.97	-0.44	1,3-Dinitrobenzen	206967	0.020
7	16.27	-0.81	Tetryl	107055	0.020
8	17.13	-0.19	Nitrobenzene	123600	0.020
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.57	-0.68	246-Trinitrotolue	133799	0.020
10	20.49	-0.68	4-Am-2,6-DNT	121375	0.020
1	21.39	-1.12	2-Am-4,6-DNT	159121	0.020
12	23.19	-0.19	2,6-DNT	108776	0.020
13	23.67	-0.70	2,4-DNT	259697	0.020
14	28.17	-0.21	2-Nitrotoluene	115602	0.020
15	30.09	-0.24	4-Nitrotoluene	112518	0.020
16	32.46	-0.24	3-Nitrotoluene	117514	0.020
0	0.00	0.00	PETN	0	0.000
			Totals	2226201	0.360

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.73			69489	0.000
			Totals	69489	0.000

File: 06169601.d02 Sample: AUTOCAL1R



Lockheed Analytical Services

Data Reprocessed On 06/17/1996 11:30:56

```
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   ple Name: AUTOCAL2R                          Date: 06/16/1996 15:03:45
     File  : E:\DX\DATA\HPLCA\8330\061696\06169601.d03
  e  od    : E:\DX\METHOD\HPLCA\8330\061696.MET
 CI Address: 1  System: 1  Inject#: 3                    Detector:UV/Vis
 nalyst    : D. Percy      Column: ULTRACARB 5 ODS-20 250X4.6 86610
=============================================================================

 ibration  Volume   Dilution Points Rate  Start   Stop Area Reject
-----------------------------------------------------------------
 ernal          1          1  10800  5Hz   0.00  36.00        5000

******************** Component Report: All Components ************************

 .    Ret% Delta Component                              Area Concentration
 m   Time        Name                                            ppb
-----------------------------------------------------------------------------
 2    5.80   0.00 HMX                                  117295         0.040
 3    7.67   0.44 4-NA**Surrogate*                     743106         0.200
 4    9.03   0.00 RDX                                  219234         0.040
 5   12.27   0.55 135-Trinitrobenze                    361005         0.040
 6   15.07   0.67 1,3-Dinitrobenzen                    561395         0.040
 7   16.43   1.02 Tetryl                               279891         0.040
 8   17.17   0.19 Nitrobenzene                         382227         0.040
 0    0.00   0.00 Nitroglycerin                             0         0.000
 9   19.70   0.68 246-Trinitrotolue                    285527         0.040
 0   20.63   0.68 4-Am-2,6-DNT                         216969         0.040
     21.57   0.83 2-Am-4,6-DNT                         382726         0.040
     23.45   1.14 2,6-DNT                              234889         0.040
 3   23.83   0.70 2,4-DNT                              501482         0.040
 4   28.23   0.21 2-Nitrotoluene                       208026         0.040
 5   30.27   0.58 4-Nitrotoluene                       176175         0.040
 6   32.60   0.44 3-Nitrotoluene                       236486         0.040
 0    0.00   0.00 PETN                                      0         0.000
                                                 -------------------------
                                          Totals     4906435         0.760

********************** Peak Report: Unknown Peaks ***************************

 .    Ret% Delta Component                              Area Concentration
 m   Time        Name                                            ppb
-----------------------------------------------------------------------------
 1    4.70                                           190783         0.000
                                                 -------------------------
                                          Totals     190783         0.000
```

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Data Reprocessed On 06/17/1996 11:30:58

mple Name: AUTOCAL3R Date: 06/16/1996 15:42:05
.a File : E:\DX\DATA\HPLCA\8330\061696\06169601.d04
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.80	0.00	HMX	358244	0.100
2	7.63	-0.43	4-NA**Surrogate*	1945659	0.500
3	8.97	-0.74	RDX	490243	0.100
4	12.23	-0.27	135-Trinitrobenze	1040768	0.100
5	15.00	-0.44	1,3-Dinitrobenzen	1447042	0.100
6	16.37	-0.41	Tetryl	769102	0.100
7	17.13	-0.19	Nitrobenzene	1047731	0.100
0	0.00	0.00	Nitroglycerin	0	0.000
8	19.67	-0.17	246-Trinitrotolue	893280	0.100
9	20.60	-0.16	4-Am-2,6-DNT	601327	0.100
	21.60	0.15	2-Am-4,6-DNT	1049761	0.100
	23.13	-1.36	2,6-DNT	594880	0.100
12	23.80	-0.14	2,4-DNT	1381287	0.100
13	28.20	-0.12	2-Nitrotoluene	583427	0.100
14	30.07	-0.66	4-Nitrotoluene	576433	0.100
15	32.47	-0.41	3-Nitrotoluene	684327	0.100
0	0.00	0.00	PETN	0	0.000
			Totals	13463509	1.900

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

000048

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Data Reprocessed On 06/17/1996 11:31:01

Sample Name: AUTOCAL4R Date: 06/16/1996 16:20:24
Data File : E:\DX\DATA\HPLCA\8330\061696\06169601.d05
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

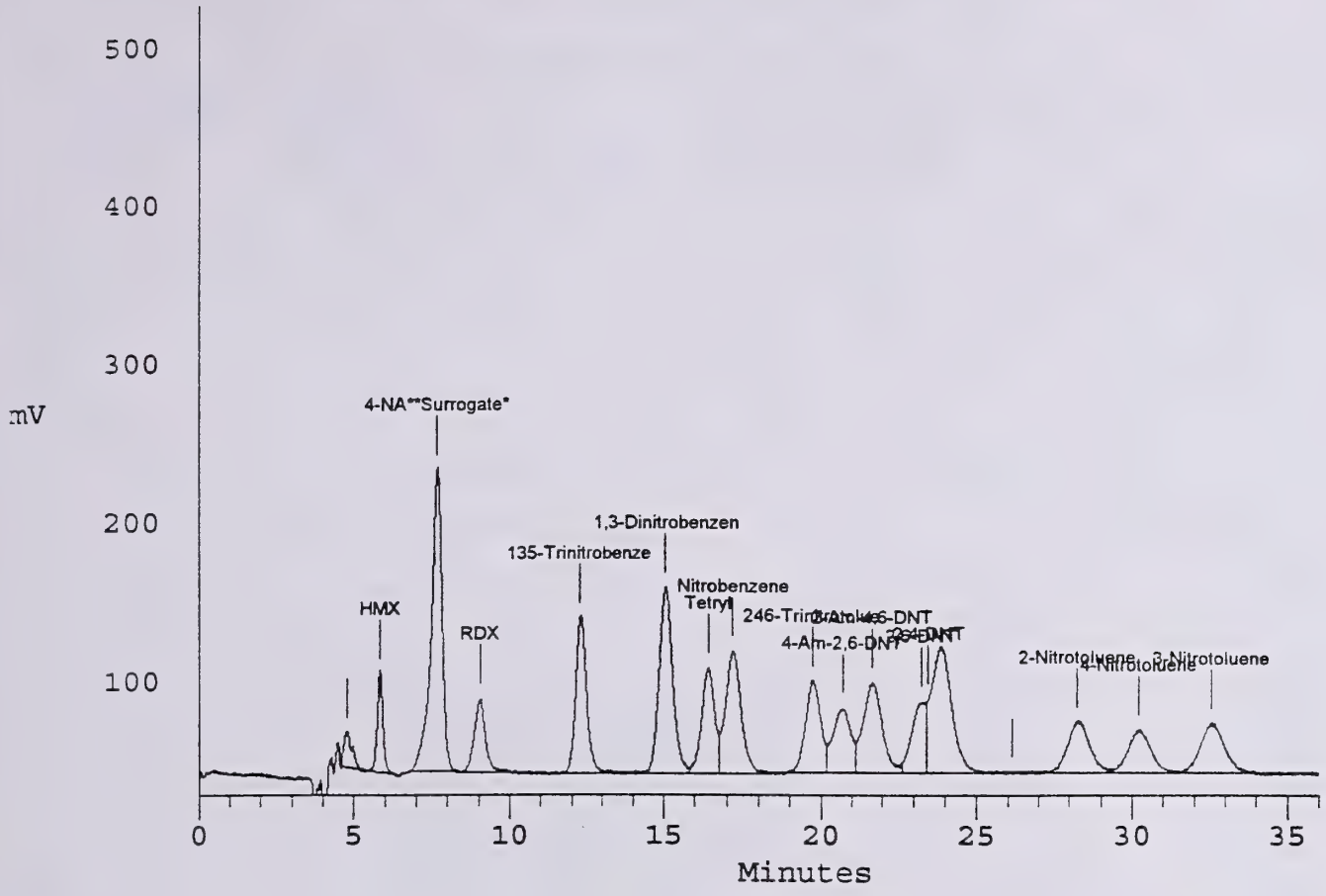
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.83	0.57	HMX	810424	0.250
3	7.67	0.44	4-NA**Surrogate*	4646437	1.260
4	9.03	0.74	RDX	1158574	0.250
5	12.27	0.27	135-Trinitrobenze	2452846	0.250
6	15.07	0.44	1,3-Dinitrobenzen	3584473	0.250
7	16.43	0.41	Tetryl	1887586	0.250
8	17.20	0.39	Nitrobenzene	2618688	0.250
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.73	0.34	246-Trinitrotolue	1962217	0.250
10	20.70	0.49	4-Am-2,6-DNT	1586935	0.250
1	21.67	0.31	2-Am-4,6-DNT	2449461	0.250
12	23.26	0.53	2,6-DNT	1378844	0.250
13	23.48	-1.33	2,4-DNT	3543436	0.250
15	28.23	0.12	2-Nitrotoluene	1628919	0.250
16	30.20	0.44	4-Nitrotoluene	1381526	0.250
17	32.53	0.21	3-Nitrotoluene	1642996	0.250
0	0.00	0.00	PETN	0	0.000
			Totals	32733363	4.760

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.77			411647	0.000
14	26.13			11735	0.000
			Totals	423382	0.000

File: 06169601.d05 Sample: AUTOCAL4R



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Data Reprocessed On 06/17/1996 11:31:03

```
Sample Name: AUTOCAL5R                          Date: 06/16/1996 16:58:44
Data File  : E:\DX\DATA\HPLCA\8330\061696\06169601.d06
Method     : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1  System: 1  Inject#: 6                    Detector:UV/Vis
Analyst    : D. Percy       Column: ULTRACARB 5 ODS-20 250X4.6 86610
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.80	-0.57	HMX	1610878	0.500
3	7.63	-0.43	4-NA**Surrogate*	9417499	2.520
4	8.97	-0.74	RDX	2213454	0.500
5	12.23	-0.27	135-Trinitrobenze	4808187	0.500
6	15.00	-0.44	1,3-Dinitrobenzen	7121687	0.500
7	16.33	-0.61	Tetryl	3733955	0.500
8	17.13	-0.39	Nitrobenzene	5180297	0.500
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.67	-0.34	246-Trinitrotolue	3975095	0.500
10	20.57	-0.64	4-Am-2,6-DNT	3170589	0.500
	21.53	-0.62	2-Am-4,6-DNT	4862037	0.500
	23.28	0.10	2,6-DNT	2632948	0.500
13	23.77	1.21	2,4-DNT	6994269	0.500
14	28.17	-0.24	2-Nitrotoluene	3119837	0.500
15	30.10	-0.33	4-Nitrotoluene	2786136	0.500
16	32.50	-0.10	3-Nitrotoluene	3501307	0.500
0	0.00	0.00	PETN	0	0.000
			Totals	65128173	9.520

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			186388	0.000
			Totals	186388	0.000

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Data Reprocessed On 06/17/1996 11:31:06

```
Sample Name: AUTOCAL6R                          Date: 06/16/1996 17:36:58
Data File  : E:\DX\DATA\HPLCA\8330\061696\06169601.d07
Method     : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1  System: 1  Inject#: 7                    Detector:UV/Vis
Analyst    : D. Percy       Column: ULTRACARB 5 ODS-20 250X4.6 86610
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

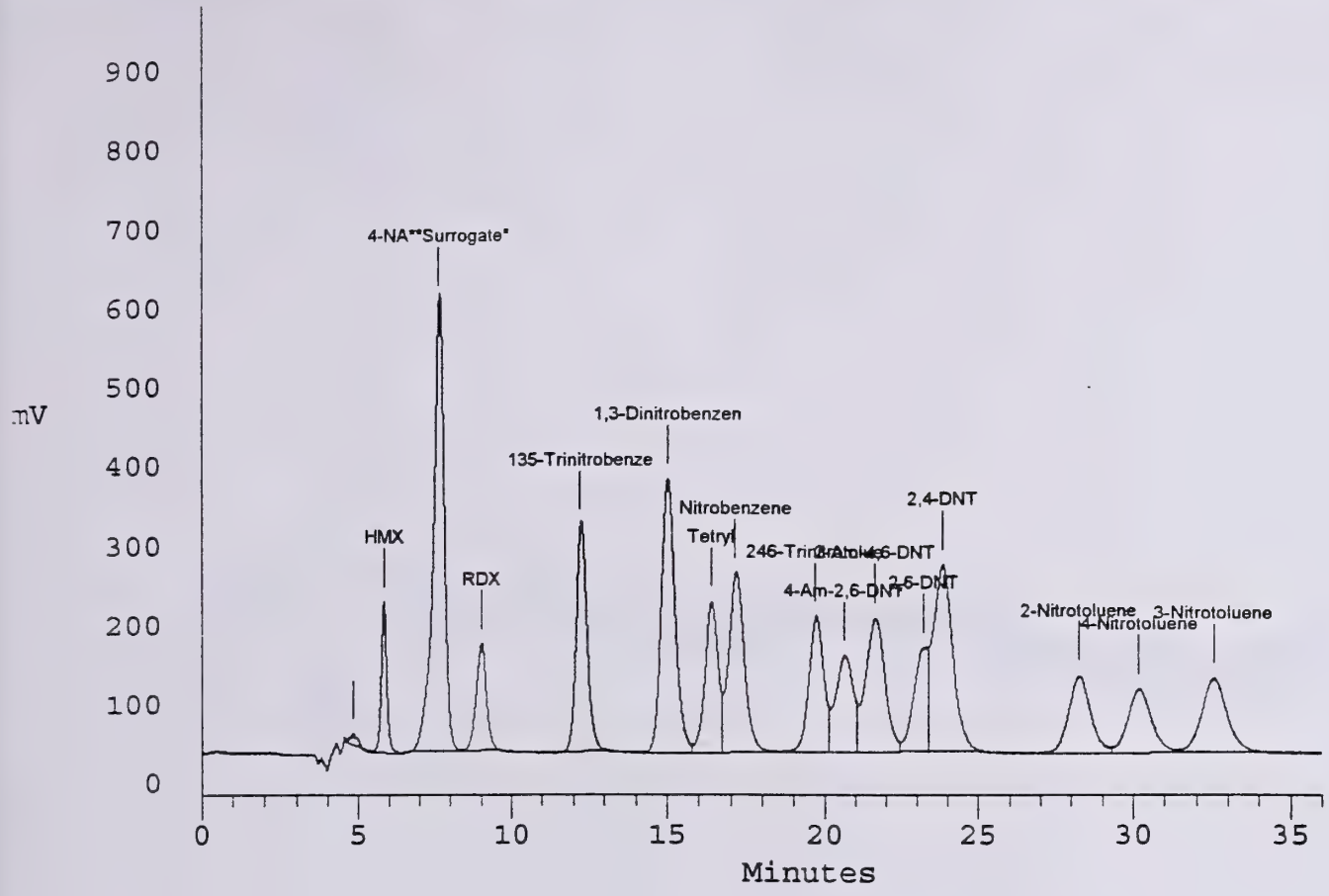
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.83	0.57	HMX	2413819	0.800
3	7.63	0.00	4-NA**Surrogate*	14030403	4.020
4	9.00	0.37	RDX	3155040	0.800
5	12.23	0.00	135-Trinitrobenze	7107933	0.800
6	15.03	0.22	1,3-Dinitrobenzen	10531811	0.800
7	16.40	0.41	Tetryl	5364862	0.800
8	17.17	0.19	Nitrobenzene	7803518	0.800
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.70	0.17	246-Trinitrotolue	5858282	0.800
10	20.63	0.32	4-Am-2,6-DNT	4678779	0.800
	21.63	0.46	2-Am-4,6-DNT	7344614	0.800
	23.23	-0.20	2,6-DNT	4303573	0.800
13	23.83	0.28	2,4-DNT	10225903	0.800
14	28.23	0.24	2-Nitrotoluene	4799002	0.800
15	30.17	0.22	4-Nitrotoluene	4182592	0.800
16	32.53	0.10	3-Nitrotoluene	5154298	0.800
0	0.00	0.00	PETN	0	0.000
			Totals	96954429	15.220

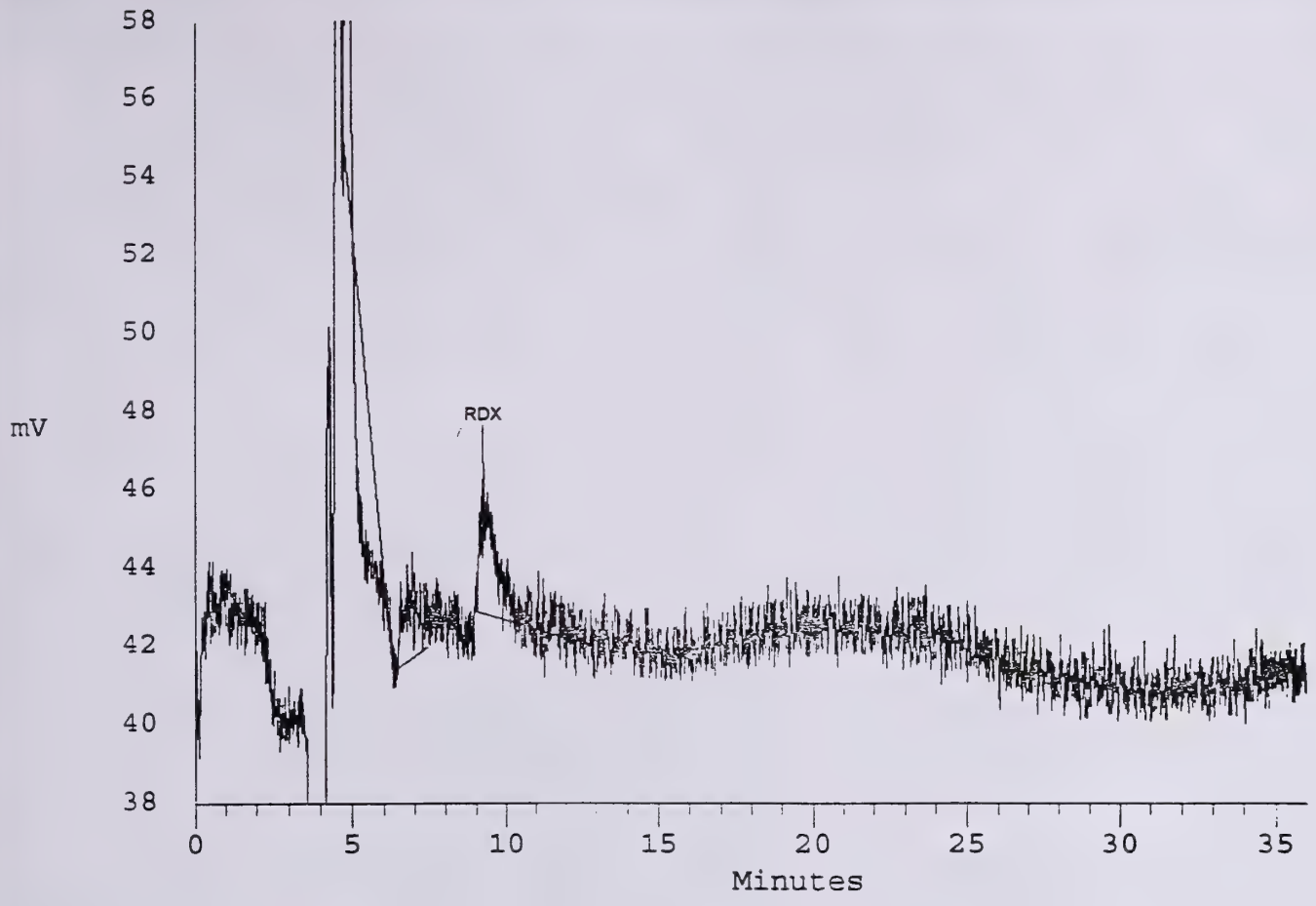
********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			216309	0.000
			Totals	216309	0.000

File: 06169601.d07 Sample: AUTOCAL6R



File: 06169601.d08 Sample: IB



Lockheed Analytical Services

Data Reprocessed On 06/18/1996 09:59:51

Sample Name: CCV3 Date: 06/18/1996 03:06:37
Data File : E:\DX\DATA\HPLCA\8330\061696\06169601.d59
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 59 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

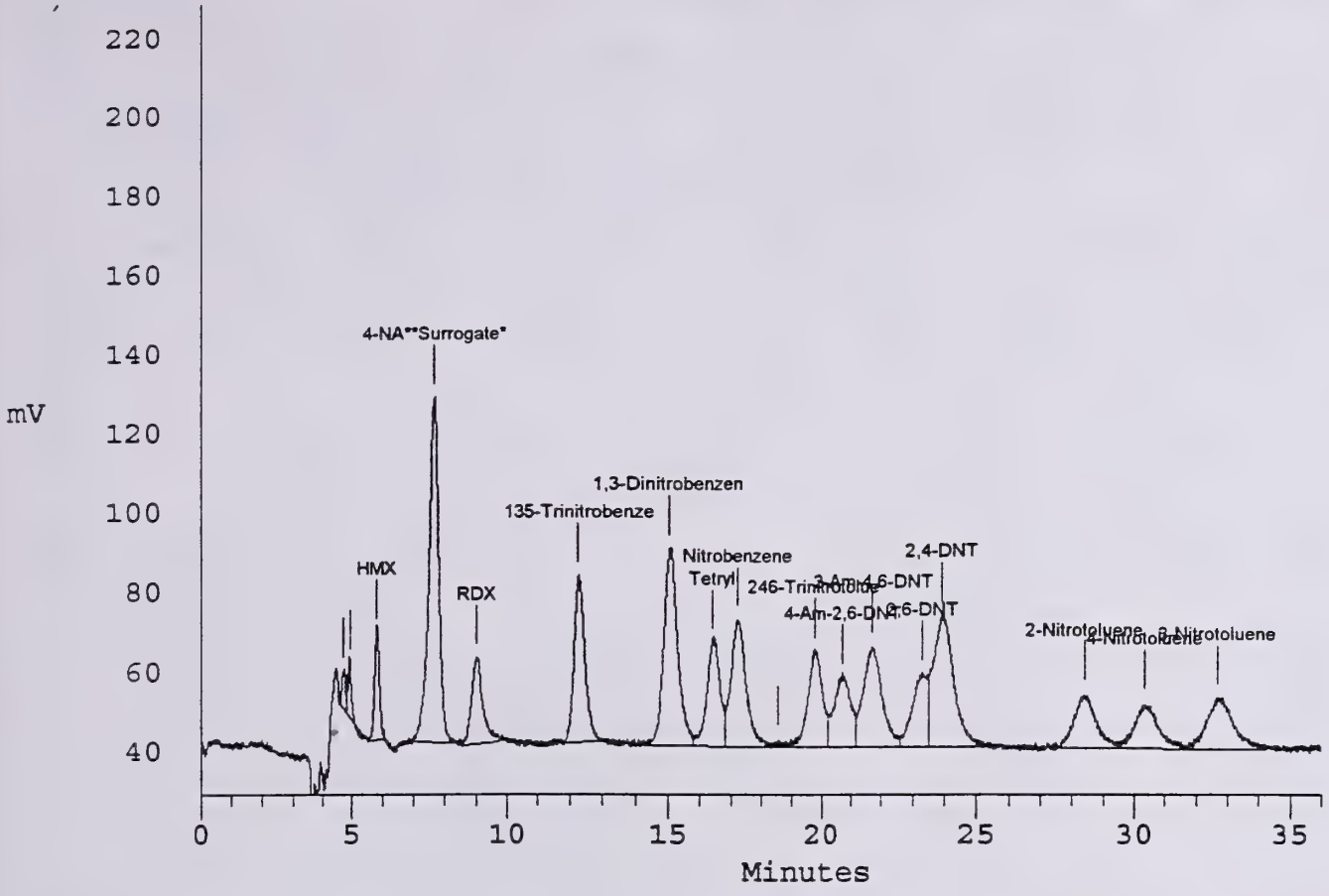
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
3	5.80	-0.57	HMX	317616	0.103
4	7.67	0.44	4-NA**Surrogate*	1925456	0.538
5	9.00	0.00	RDX	542087	0.131 out
6	12.27	0.27	135-Trinitrobenze	975750	0.106
7	15.07	0.22	1,3-Dinitrobenzen	1495188	0.110
8	16.40	0.00	Tetryl	770029	0.110
9	17.23	0.39	Nitrobenzene	1084476	0.109
0	0.00	0.00	Nitroglycerin	0	0.000
11	19.77	0.34	246-Trinitrotolue	809099	0.107
12	20.70	0.32	4-Am-2,6-DNT	679185	0.113
[illegible]	21.70	0.31	2-Am-4,6-DNT	1048848	0.112
[illegible]	23.30	0.29	2,6-DNT	593723	0.111
15	23.93	0.42	2,4-DNT	1431654	0.108
16	28.40	0.59	2-Nitrotoluene	638785	0.105
17	30.33	0.55	4-Nitrotoluene	563353	0.105
18	32.67	0.41	3-Nitrotoluene	706860	0.107
0	0.00	0.00	PETN	0	0.000
			Totals	13582110	2.075

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.70			75520	0.000
2	4.93			83299	0.000
10	18.54			19290	0.000
			Totals	178108	0.000

File: 06169601.d59 Sample: CCV3



6/19/96 RK

Lockheed Analytical Services

Data Reprocessed On 06/19/1996 09:29:34

Sample Name: CCV3 Date: 06/18/1996 12:02:08
Data File : E:\DX\DATA\HPLCA\8330\061696\06169601.d73
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 73 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

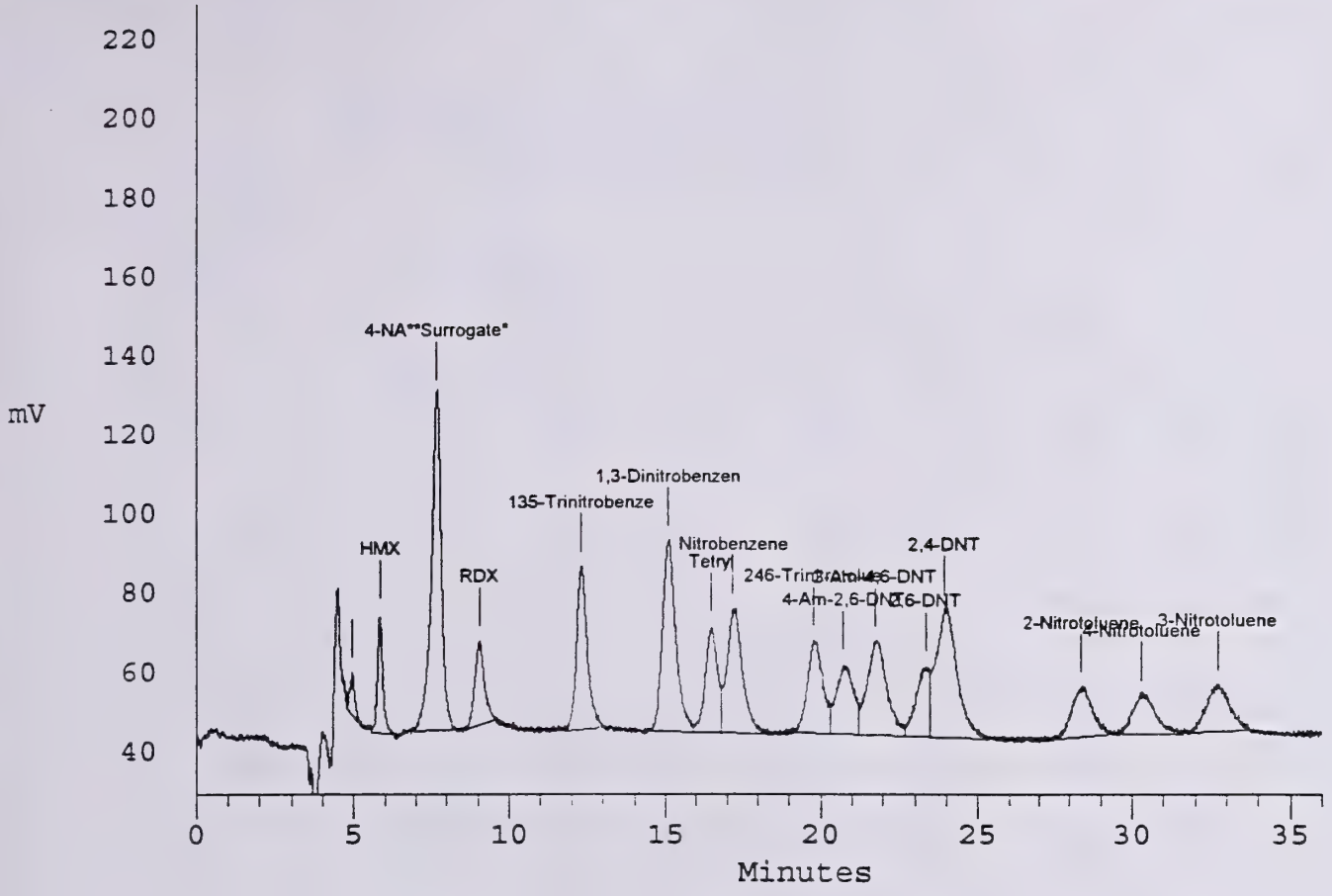
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.83	0.00	HMX	356534	0.115
3	7.67	0.44	4-NA**Surrogate*	1930659	0.540
4	9.03	0.37	RDX	466705	0.113
5	12.30	0.54	135-Trinitrobenze	993142	0.108
6	15.10	0.44	1,3-Dinitrobenzen	1446430	0.107
7	16.50	0.61	Tetryl	735826	0.105
8	17.20	0.19	Nitrobenzene	1073159	0.108
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.77	0.34	246-Trinitrotolue	789666	0.105
10	20.73	0.48	4-Am-2,6-DNT	659144	0.110
1	21.73	0.46	2-Am-4,6-DNT	1035194	0.110
2	23.33	0.43	2,6-DNT	499107	0.093
13	23.93	0.42	2,4-DNT	1500023	0.113
14	28.37	0.47	2-Nitrotoluene	583396	0.096
15	30.30	0.44	4-Nitrotoluene	491846	0.092
16	32.70	0.51	3-Nitrotoluene	600372	0.091
0	0.00	0.00	PETN	0	0.000
			Totals	13161203	2.005

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.93			116217	0.000
			Totals	116217	0.000

File: 06169601.a73 Sample: CCV3



LOCKHEED ANALYTICAL SERVICES
INITIAL CALIBRATION RETENTION TIME SUMMARY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A

Column ID: ULTRCARB

STANDARD ID	AUTOCAL1R	AUTOCAL2R	AUTOCAL3R	AUTOCAL4R	AUTOCAL5R	AUTOCAL6R		
	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96		
COMPOUND	14:25:20	15:03:45	15:42:05	16:20:24	16:58:44	17:36:58	AVG	RSD
HMX	5.80	5.80	5.80	5.83	5.80	5.83	5.81	0.3%
4-NA**Surrogate*	7.63	7.67	7.63	7.67	7.63	7.63	7.64	0.3%
RDX	9.03	9.03	8.97	9.03	8.97	9.00	9.01	0.3%
135-Trinitrobenze	12.20	12.27	12.23	12.27	12.23	12.23	12.24	0.2%
1,3-Dinitrobenzen	14.97	15.07	15.00	15.07	15.00	15.03	15.02	0.3%
Tetryl	16.27	16.43	16.37	16.43	16.33	16.40	16.37	0.4%
Nitrobenzene	17.13	17.17	17.13	17.20	17.13	17.17	17.16	0.2%
Nitroglycerin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
246-Trinitrotolue	19.57	19.70	19.67	19.73	19.67	19.70	19.67	0.3%
4-Am-2,6-DNT	20.49	20.63	20.60	20.70	20.57	20.63	20.60	0.3%
2-Am-4,6-DNT	21.39	21.57	21.60	21.67	21.53	21.63	21.57	0.5%
2,6-DNT	23.19	23.45	23.13	23.26	23.28	23.23	23.26	0.5%
2,4-DNT	23.67	23.83	23.80	23.48	23.77	23.83	23.73	0.6%
2-Nitrotoluene	28.17	28.23	28.20	28.23	28.17	28.23	28.21	0.1%
4-Nitrotoluene	30.09	30.27	30.07	30.20	30.10	30.17	30.15	0.3%
3-Nitrotoluene	32.46	32.60	32.47	32.53	32.50	32.53	32.52	0.2%
PETN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%

LOCKHEED ANALYTICAL SERVICES
INITIAL CALIBRATION AREA SUMMARY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET
Analytical Batch ID: 061696-8330-HPLCA-1-5
Instrument ID: HPLC-A
Column ID: ULTRCARB

STANDARD ID	AUTOCAL1R	AUTOCAL2R	AUTOCAL3R	AUTOCAL4R	AUTOCAL5R	AUTOCAL6R
	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96
COMPOUND	14:25:20	15:03:45	15:42:05	16:20:24	16:58:44	17:36:58
HMX	49629	117295	358244	810424	1610878	2413819
4-NA**Surrogate*	301995	743106	1945659	4646437	9417499	14030403
RDX	134077	219234	490243	1158574	2213454	3155040
135-Trinitrobenze	174476	361005	1040768	2452846	4808187	7107933
1,3-Dinitrobenzen	206967	561394	1447042	3584473	7121687	10531803
Tetryl	107055	279894	769101	1887574	3733955	5364867
Nitrobenzene	123599	382227	1047730	2618688	5180297	7803518
Nitroglycerin	0	0	0	0	0	0
246-Trinitrotolue	133799	285527	893280	1962217	3975095	5858264
4-Am-2,6-DNT	121375	216969	601323	1586935	3170589	4678782
2-Am-4,6-DNT	159121	382726	1049763	2449441	4862031	7344614
2,6-DNT	108776	234889	594868	1378844	2632954	4303573
2,4-DNT	259697	501482	1381290	3543436	6994269	10225903
2-Nitrotoluene	115602	208026	583427	1628919	3119837	4799002
4-Nitrotoluene	112518	176175	576433	1381526	2786134	4182592
3-Nitrotoluene	117514	236486	684327	1642996	3501305	5154298
PETN	0	0	0	0	0	0

LOCKHEED ANALYTICAL SERVICES
INITIAL CALIBRATION CURVE SUMMARY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A Calibration Type Linear, Forced

Column ID: ULTRCARB

COMPOUND	QUADRATIC COEFFICIEN	LINEAR COEFFICIEN	CONSTANT	R SQUARED
HMX	3.232E-07		0.0000	0.9974
4-NA**Surrogate*	2.797E-07		0.0000	0.9979
RDX	2.412E-07		0.0000	0.9912
135-Trinitrobenze	1.091E-07		0.0000	0.9964
1,3-Dinitrobenzen	7.378E-08		0.0000	0.9970
Tetryl	1.431E-07		0.0000	0.9942
Nitrobenzene	1.003E-07		0.0000	0.9981
Nitroglycerin	1.003E-07		0.0000	0.9981
246-Trinitrotolue	1.325E-07		0.0000	0.9964
4-Am-2,6-DNT	1.662E-07		0.0000	0.9970
2-Am-4,6-DNT	1.066E-07		0.0000	0.9981
2,6-DNT	1.863E-07		0.0000	0.9994
2,4-DNT	7.563E-08		0.0000	0.9960
2-Nitrotoluene	1.641E-07		0.0000	0.9986
4-Nitrotoluene	1.870E-07		0.0000	0.9980
3-Nitrotoluene	1.513E-07		0.0000	0.9972
PETN	1.513E-07		0.0000	0.9972

LOCKHEED ANALYTICAL SERVICES
INITIAL CALIBRATION CONCENTRATIONS

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET
Analytical Batch ID: 061696-8330-HPLCA-1-5 Units: UG/ML
Instrument ID: HPLC-A
Column ID: ULTRCARB

STANDARD ID	AUTOCAL1R	AUTOCAL2R	AUTOCAL3R	AUTOCAL4R	AUTOCAL5R	AUTOCAL6R
	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96	16-Jun-96
COMPOUND	14:25:20	15:03:45	15:42:05	16:20:24	16:58:44	17:36:58
HMX	0.02	0.04	0.1	0.25	0.5	0.8
4-NA**Surrogate*	0.08	0.2	0.5	1.26	2.52	4.02
RDX	0.02	0.04	0.1	0.25	0.5	0.8
135-Trinitrobenze	0.02	0.04	0.1	0.25	0.5	0.8
1,3-Dinitrobenzen	0.02	0.04	0.1	0.25	0.5	0.8
Tetryl	0.02	0.04	0.1	0.25	0.5	0.8
Nitrobenzene	0.02	0.04	0.1	0.25	0.5	0.8
Nitroglycerin	0	0	0	0	0	0
246-Trinitrotolue	0.02	0.04	0.1	0.25	0.5	0.8
4-Am-2,6-DNT	0.02	0.04	0.1	0.25	0.5	0.8
2-Am-4,6-DNT	0.02	0.04	0.1	0.25	0.5	0.8
2,6-DNT	0.02	0.04	0.1	0.25	0.5	0.8
2,4-DNT	0.02	0.04	0.1	0.25	0.5	0.8
2-Nitrotoluene	0.02	0.04	0.1	0.25	0.5	0.8
4-Nitrotoluene	0.02	0.04	0.1	0.25	0.5	0.8
3-Nitrotoluene	0.02	0.04	0.1	0.25	0.5	0.8
PETN	0	0	0	0	0	0

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
TRUE VS. MEASURED VALUES

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A Units: UG/ML

Column ID: ULTRCARB

		STD ID	DATE	TIME	
	TRUE	CCV3	06/17/96	00:00:02	
COMPOUND	VALUE	MEASURED VALUE			%D
HMX	0.100	0.115			14.7%
4-NA**Surrogate*	0.500	0.526			5.2%
RDX	0.100	0.111			11.4%
135-Trinitrobenze	0.100	0.106			6.2%
1,3-Dinitrobenzen	0.100	0.109			8.6%
Tetryl	0.100	0.111			11.0%
Nitrobenzene	0.100	0.108			8.0%
Nitroglycerin	0.000	0.000			
246-Trinitrotolue	0.100	0.111			11.5%
4-Am-2,6-DNT	0.100	0.103			3.3%
2-Am-4,6-DNT	0.100	0.105			5.0%
2,6-DNT	0.100	0.101			1.0%
2,4-DNT	0.100	0.109			8.9%
2-Nitrotoluene	0.100	0.094			-6.1%
4-Nitrotoluene	0.100	0.109			9.3%
3-Nitrotoluene	0.100	0.102			2.3%
PETN	0.000	0.000			

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
RETENTION TIME STABILITY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A

Column ID: ULTRCARB

COMPOUND	INITIAL ALIBRATIO AVERAGE RT	STD ID CCV3 ACTUAL RT	DATE 17-Jun-96	TIME 00:00:02	%D
HMX	5.83	5.83			0.00%
4-NA**Surrogate*	7.63	7.63			0.00%
RDX	9.00	9.00			0.00%
135-Trinitrobenze	12.23	12.27			0.33%
1,3-Dinitrobenzen	15.03	15.03			0.00%
Tetryl	16.40	16.40			0.00%
Nitrobenzene	17.17	17.20			0.17%
Nitroglycerin	0.00	0.00			
246-Trinitrotolue	19.70	19.73			0.15%
4-Am-2,6-DNT	20.63	20.70			0.34%
2-Am-4,6-DNT	21.63	21.67			0.18%
2,6-DNT	23.23	23.27			0.17%
2,4-DNT	23.83	23.90			0.29%
2-Nitrotoluene	28.23	28.33			0.35%
4-Nitrotoluene	30.17	30.30			0.43%
3-Nitrotoluene	32.53	32.57			0.12%
PETN	0.00	0.00			

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
TRUE VS. MEASURED VALUES

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A Units: UG/ML

Column ID: ULTRCARB

COMPOUND	TRUE VALUE	STD ID CCV3 DATE 06/17/96 TIME 13:03:52 MEASURED VALUE	%D
HMX	0.100	0.105	4.9%
4-NA**Surrogate*	0.500	0.530	6.1%
RDX	0.100	0.115	14.6%
135-Trinitrobenze	0.100	0.109	8.7%
1,3-Dinitrobenzen	0.100	0.109	9.3%
Tetryl	0.100	0.105	5.3%
Nitrobenzene	0.100	0.100	-0.1%
Nitroglycerin	0.000	0.000	
246-Trinitrotolue	0.100	0.108	8.4%
4-Am-2,6-DNT	0.100	0.104	3.5%
2-Am-4,6-DNT	0.100	0.109	9.1%
2,6-DNT	0.100	0.098	-1.9%
2,4-DNT	0.100	0.110	9.7%
2-Nitrotoluene	0.100	0.108	8.3%
4-Nitrotoluene	0.100	0.105	4.8%
3-Nitrotoluene	0.100	0.102	1.8%
PETN	0.000	0.000	

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
RETENTION TIME STABILITY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A

Column ID: ULTRCARB

COMPOUND	INITIAL ALIBRATIO AVERAGE RT	STD ID CCV3 ACTUAL RT	DATE 17-Jun-96	TIME 13:03:52	%D
HMX	5.83	5.80			-0.51%
4-NA**Surrogate*	7.63	7.63			0.00%
RDX	9.00	8.97			-0.33%
135-Trinitrobenze	12.23	12.23			0.00%
1,3-Dinitrobenzen	15.03	15.00			-0.20%
Tetryl	16.40	16.30			-0.61%
Nitrobenzene	17.17	17.13			-0.23%
Nitroglycerin	0.00	0.00			
246-Trinitrotolue	19.70	19.67			-0.15%
4-Am-2,6-DNT	20.63	20.53			-0.48%
2-Am-4,6-DNT	21.63	21.57			-0.28%
2,6-DNT	23.23	23.20			-0.13%
2,4-DNT	23.83	23.80			-0.13%
2-Nitrotoluene	28.23	28.27			0.14%
4-Nitrotoluene	30.17	30.17			0.00%
3-Nitrotoluene	32.53	32.53			0.00%
PETN	0.00	0.00			

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
TRUE VS. MEASURED VALUES

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A Units: UG/ML

Column ID: ULTRCARB

COMPOUND	TRUE VALUE	STD ID CCV3	DATE 06/18/96	TIME 03:06:37	%D
		MEASURED VALUE			
HMX	0.100	0.103			2.6%
4-NA**Surrogate*	0.500	0.538			7.7%
RDX	0.100	0.131			30.8%
135-Trinitrobenze	0.100	0.106			6.4%
1,3-Dinitrobenzen	0.100	0.110			10.3%
Tetryl	0.100	0.110			10.2%
Nitrobenzene	0.100	0.109			8.7%
Nitroglycerin	0.000	0.000			
246-Trinitrotolue	0.100	0.107			7.2%
4-Am-2,6-DNT	0.100	0.113			12.8%
2-Am-4,6-DNT	0.100	0.112			11.8%
2,6-DNT	0.100	0.111			10.6%
2,4-DNT	0.100	0.108			8.3%
2-Nitrotoluene	0.100	0.105			4.8%
4-Nitrotoluene	0.100	0.105			5.4%
3-Nitrotoluene	0.100	0.107			7.0%
PETN	0.000	0.000			

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
RETENTION TIME STABILITY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A

Column ID: ULTRCARB

	INITIAL	STD ID	DATE	TIME	
	ALIBRATIO	CCV3	18-Jun-96	03:06:37	
COMPOUND	AVERAGE RT		ACTUAL RT		%D
HMX	5.83		5.80		-0.51%
4-NA**Surrogate*	7.63		7.67		0.52%
RDX	9.00		9.00		0.00%
135-Trinitrobenze	12.23		12.27		0.33%
1,3-Dinitrobenzen	15.03		15.07		0.27%
Tetryl	16.40		16.40		0.00%
Nitrobenzene	17.17		17.23		0.35%
Nitroglycerin	0.00		0.00		
246-Trinitrotolue	19.70		19.77		0.36%
4-Am-2,6-DNT	20.63		20.70		0.34%
2-Am-4,6-DNT	21.63		21.70		0.32%
2,6-DNT	23.23		23.30		0.30%
2,4-DNT	23.83		23.93		0.42%
2-Nitrotoluene	28.23		28.40		0.60%
4-Nitrotoluene	30.17		30.33		0.53%
3-Nitrotoluene	32.53		32.67		0.43%
PETN	0.00		0.00		

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
TRUE VS. MEASURED VALUES

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A Units: UG/ML

Column ID: ULTRCARB

		STD ID	DATE	TIME	
	TRUE	CCV3	06/18/96	12:02:08	
COMPOUND	VALUE		MEASURED VALUE		%D
HMX	0.100		0.115		15.2%
4-NA**Surrogate*	0.500		0.540		8.0%
RDX	0.100		0.113		12.6%
135-Trinitrobenze	0.100		0.108		8.3%
1,3-Dinitrobenzen	0.100		0.107		6.7%
Tetryl	0.100		0.105		5.3%
Nitrobenzene	0.100		0.108		7.6%
Nitroglycerin	0.000		0.000		
246-Trinitrotolue	0.100		0.105		4.6%
4-Am-2,6-DNT	0.100		0.110		9.5%
2-Am-4,6-DNT	0.100		0.110		10.3%
2,6-DNT	0.100		0.093		-7.0%
2,4-DNT	0.100		0.113		13.5%
2-Nitrotoluene	0.100		0.096		-4.3%
4-Nitrotoluene	0.100		0.092		-8.0%
3-Nitrotoluene	0.100		0.091		-9.2%
PETN	0.000		0.000		

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
RETENTION TIME STABILITY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A

Column ID: ULTRCARB

	INITIAL	STD ID	DATE	TIME	
	ALIBRATIO	CCV3	18-Jun-96	12:02:08	
COMPOUND	AVERAGE RT		ACTUAL RT		%D
HMX	5.83		5.83		0.00%
4-NA**Surrogate*	7.63		7.67		0.52%
RDX	9.00		9.03		0.33%
135-Trinitrobenze	12.23		12.30		0.57%
1,3-Dinitrobenzen	15.03		15.10		0.47%
Tetryl	16.40		16.50		0.61%
Nitrobenzene	17.17		17.20		0.17%
Nitroglycerin	0.00		0.00		
246-Trinitrotolue	19.70		19.77		0.36%
4-Am-2,6-DNT	20.63		20.73		0.48%
2-Am-4,6-DNT	21.63		21.73		0.46%
2,6-DNT	23.23		23.33		0.43%
2,4-DNT	23.83		23.93		0.42%
2-Nitrotoluene	28.23		28.37		0.50%
4-Nitrotoluene	30.17		30.30		0.43%
3-Nitrotoluene	32.53		32.70		0.52%
PETN	0.00		0.00		

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
TRUE VS. MEASURED VALUES

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A Units: UG/ML

Column ID: ULTRCARB

		STD ID	DATE	TIME	
	TRUE	CCV3	06/19/96	00:12:27	
COMPOUND	VALUE	MEASURED VALUE			%D
HMX	0.100	0.106			5.7%
4-NA**Surrogate*	0.500	0.548			9.6%
RDX	0.100	0.121			21.1%
135-Trinitrobenze	0.100	0.106			5.7%
1,3-Dinitrobenzen	0.100	0.110			10.0%
Tetryl	0.100	0.105			4.9%
Nitrobenzene	0.100	0.110			10.4%
Nitroglycerin	0.000	0.000			
246-Trinitrotolue	0.100	0.109			8.8%
4-Am-2,6-DNT	0.100	0.107			7.0%
2-Am-4,6-DNT	0.100	0.108			8.2%
2,6-DNT	0.100	0.100			-0.1%
2,4-DNT	0.100	0.108			8.3%
2-Nitrotoluene	0.100	0.113			12.7%
4-Nitrotoluene	0.100	0.104			4.5%
3-Nitrotoluene	0.100	0.104			3.8%
PETN	0.000	0.000			

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
RETENTION TIME STABILITY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET
Analytical Batch ID: 061696-8330-HPLCA-1-5
Instrument ID: HPLC-A
Column ID: ULTRCARB

	INITIAL	STD ID	DATE	TIME	
	ALIBRATIO	CCV3	19-Jun-96	00:12:27	
COMPOUND	AVERAGE RT		ACTUAL RT		%D
HMX	5.83		5.83		0.00%
4-NA**Surrogate*	7.63		7.70		0.92%
RDX	9.00		9.07		0.78%
135-Trinitrobenze	12.23		12.33		0.82%
1,3-Dinitrobenzen	15.03		15.10		0.47%
Tetryl	16.40		16.50		0.61%
Nitrobenzene	17.17		17.23		0.35%
Nitroglycerin	0.00		0.00		
246-Trinitrotolue	19.70		19.77		0.36%
4-Am-2,6-DNT	20.63		20.70		0.34%
2-Am-4,6-DNT	21.63		21.73		0.46%
2,6-DNT	23.23		23.17		-0.26%
2,4-DNT	23.83		23.90		0.29%
2-Nitrotoluene	28.23		28.17		-0.21%
4-Nitrotoluene	30.17		30.10		-0.23%
3-Nitrotoluene	32.53		32.43		-0.31%
PETN	0.00		0.00		

LOCKHEED ANALYTICAL SERVICES
SURROGATE RETENTION TIME SUMMARY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A

Column ID: ULTRCARB

SAMPLE ID	Injection Date	Time	RT 4-NA**Surrogate*	%D
AUTOCAL1R	16-Jun-96	14:25	7.63	0.00%
AUTOCAL2R	16-Jun-96	15:03	7.67	-0.52%
AUTOCAL3R	16-Jun-96	15:42	7.63	0.00%
AUTOCAL4R	16-Jun-96	16:20	7.67	-0.52%
AUTOCAL5R	16-Jun-96	16:58	7.63	0.00%
AUTOCAL6R	16-Jun-96	17:36	7.63	0.00%
L7076-1 1:5	16-Jun-96	18:53	7.67	-0.52%
L7076-1 1:2	16-Jun-96	19:31	7.63	0.00%
L7076-2 1:50	16-Jun-96	20:48	7.67	-0.52%
L7076-2 1:25	16-Jun-96	21:26	7.63	0.00%
L7076-2 1:10	16-Jun-96	22:04	7.63	0.00%
L7076-2 1:5	16-Jun-96	22:43	7.67	-0.52%
CCV3	17-Jun-96	00:00	7.63	0.00%
CCV3	17-Jun-96	13:03	7.63	0.00%
37212MB	17-Jun-96	13:42	7.73	-1.31%
37212LCS	17-Jun-96	14:20	7.70	-0.92%
37212LCSDUP	17-Jun-96	14:59	7.73	-1.31%
37212MS	17-Jun-96	15:37	7.73	-1.31%
37212MSD	17-Jun-96	16:15	7.73	-1.31%
37638MB	17-Jun-96	16:54	7.73	-1.31%
37638LCS	17-Jun-96	17:32	7.73	-1.31%
37638LCSDUP	17-Jun-96	18:10	7.77	-1.83%
37638MS-1	17-Jun-96	18:48	7.73	-1.31%
37638MSD-1	17-Jun-96	19:27	7.73	-1.31%
37638MS-2	17-Jun-96	20:05	7.73	-1.31%
37638MSD-2	17-Jun-96	20:43	7.73	-1.31%
L7096-2	17-Jun-96	21:22	7.73	-1.31%
L7103-6	17-Jun-96	22:00	7.73	-1.31%
L7103-1	17-Jun-96	22:38	7.77	-1.83%
L7103-12	17-Jun-96	23:16	7.73	-1.31%
L7103-18	17-Jun-96	23:55	7.73	-1.31%
L7103-23	18-Jun-96	00:33	7.77	-1.83%
L7103-29	18-Jun-96	01:11	7.77	-1.83%
CCV3	18-Jun-96	03:06	7.67	-0.52%
37905MB	18-Jun-96	03:44	7.77	-1.83%
37905LCS	18-Jun-96	04:23	7.73	-1.31%
37905LCSDUP	18-Jun-96	05:01	7.77	-1.83%
L7186-3	18-Jun-96	05:39	7.77	-1.83%
L7186-4	18-Jun-96	06:17	7.77	-1.83%
L7181-16	18-Jun-96	06:56	7.77	-1.83%

LOCKHEED ANALYTICAL SERVICES
SURROGATE RETENTION TIME SUMMARY

Method file ID: E:\DX\METHOD\HPLCA\8330\061696.MET

Analytical Batch ID: 061696-8330-HPLCA-1-5

Instrument ID: HPLC-A

Column ID: ULTRCARB

SAMPLE ID	Injection Date	Time	RT 4-NA** Surrogate*	%D
L7181-20	18-Jun-96	07:34	7.77	-1.83%
38019MB	18-Jun-96	08:12	7.80	-2.23%
38019LCS	18-Jun-96	08:50	7.77	-1.83%
38019LCSDUP	18-Jun-96	09:29	7.80	-2.23%
L7219-1	18-Jun-96	10:07	7.67	-0.52%
CCV3	18-Jun-96	12:02	7.67	-0.52%
37906MB	18-Jun-96	12:40	7.70	-0.92%
37906LCS	18-Jun-96	13:18	7.63	0.00%
37906LCSDUP	18-Jun-96	13:56	7.67	-0.52%
37906MS	18-Jun-96	14:35	7.67	-0.52%
37906MSD	18-Jun-96	15:13	7.63	0.00%
L7186-7	18-Jun-96	15:54	7.67	-0.52%
L7186-8	18-Jun-96	16:32	7.67	-0.52%
L7181-4	18-Jun-96	17:10	7.63	0.00%
L7181-10	18-Jun-96	17:49	7.67	-0.52%
L7076-1	18-Jun-96	18:27	7.70	-0.92%
L7076-2	18-Jun-96	19:44	7.67	-0.52%
38144MB	18-Jun-96	21:00	7.73	-1.31%
38144LCS	18-Jun-96	21:39	7.77	-1.83%
38144LCSDUP	18-Jun-96	22:17	7.77	-1.83%
L7242-2	18-Jun-96	22:55	7.73	-1.31%
L7242-4	18-Jun-96	23:34	7.77	-1.83%
CCV3	19-Jun-96	00:12	7.70	-0.92%

CALIBRATION DATA

062096

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Data Reprocessed On 06/20/1996 18:30:04

```
Sample Name: 246TNT                              Date: 06/19/1996 21:34:09
Data File  : E:\DX\DATA\HPLCA\8330\062096\06209601.d04
Method     : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1  System: 1  Inject#: 4                    Detector:UV/Vis
Analyst    : PERCY          Column: IB-SIL 5 CN
```

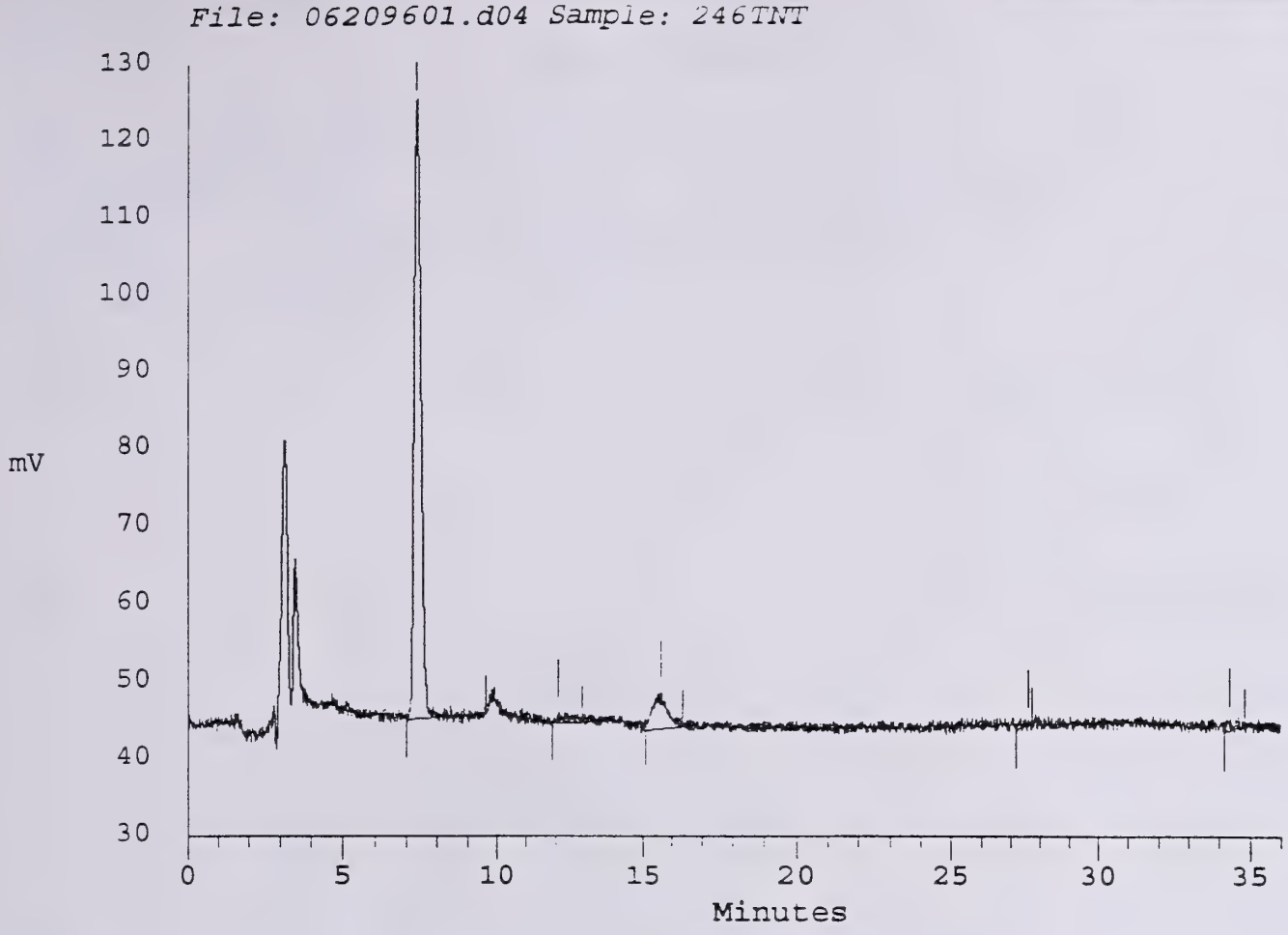
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
0	0.00	0.00	1,3,5-TRINITROBENZ	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2-AM-DNT	0	0.000
0	0.00	0.00	4-AM-DNT	0	0.000
1	7.33	0.05	TNT	1199312	4.253
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	1199312	4.253

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	12.10			35994	0.000
3	15.63			161478	0.000
4	27.57			12475	0.000
5	34.30			24106	0.000
			Totals	234053	0.000


File: 06209601.d04 Sample: 246TNT
130
120
110
100
90
80
70
60
50
40
30
mV
0
5
10
15
20
25
30
35
Minutes

Lockheed Analytical Services

Data Reprocessed On 06/20/1996 18:30:07

```
Sample Name: 4-AM                              Date: 06/19/1996 22:12:30
Data File  : E:\DX\DATA\HPLCA\8330\062096\06209601.d05
Method     : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1  System: 1  Inject#: 5                    Detector:UV/Vis
Analyst    : PERCY          Column: IB-SIL 5 CN
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

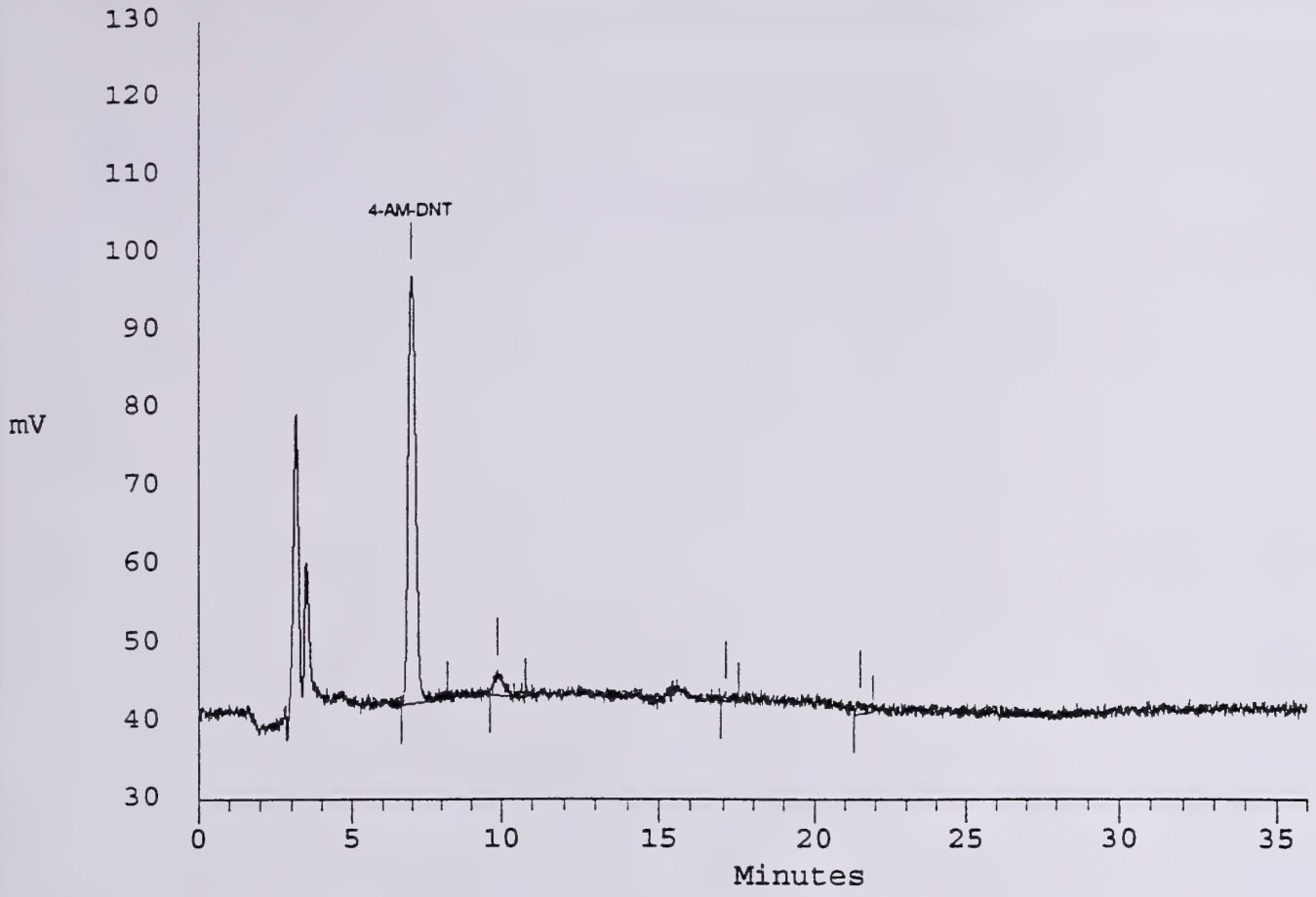
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
0	0.00	0.00	1,3,5-TRINITROBENZ	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2-AM-DNT	0	0.000
1	6.97	-0.05	4-AM-DNT	972867	0.000
0	0.00	0.00	TNT	0	0.000
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	972867	0.000

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	9.87			69909	0.000
3	17.10			13807	0.000
4	21.50			28221	0.000
			Totals	111937	0.000

File: 06209601.a05 Sample: 4-AM



Lockheed Analytical Services

Data Reprocessed On 06/20/1996 18:30:10

```
Sample Name: 2AM                                  Date: 06/19/1996 22:50:52
Data File  : E:\DX\DATA\HPLCA\8330\062096\06209601.d06
Method     : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1  System: 1  Inject#: 6                    Detector:UV/Vis
Analyst    : PERCY          Column: IB-SIL 5 CN
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

********** Component Report: All Components **********

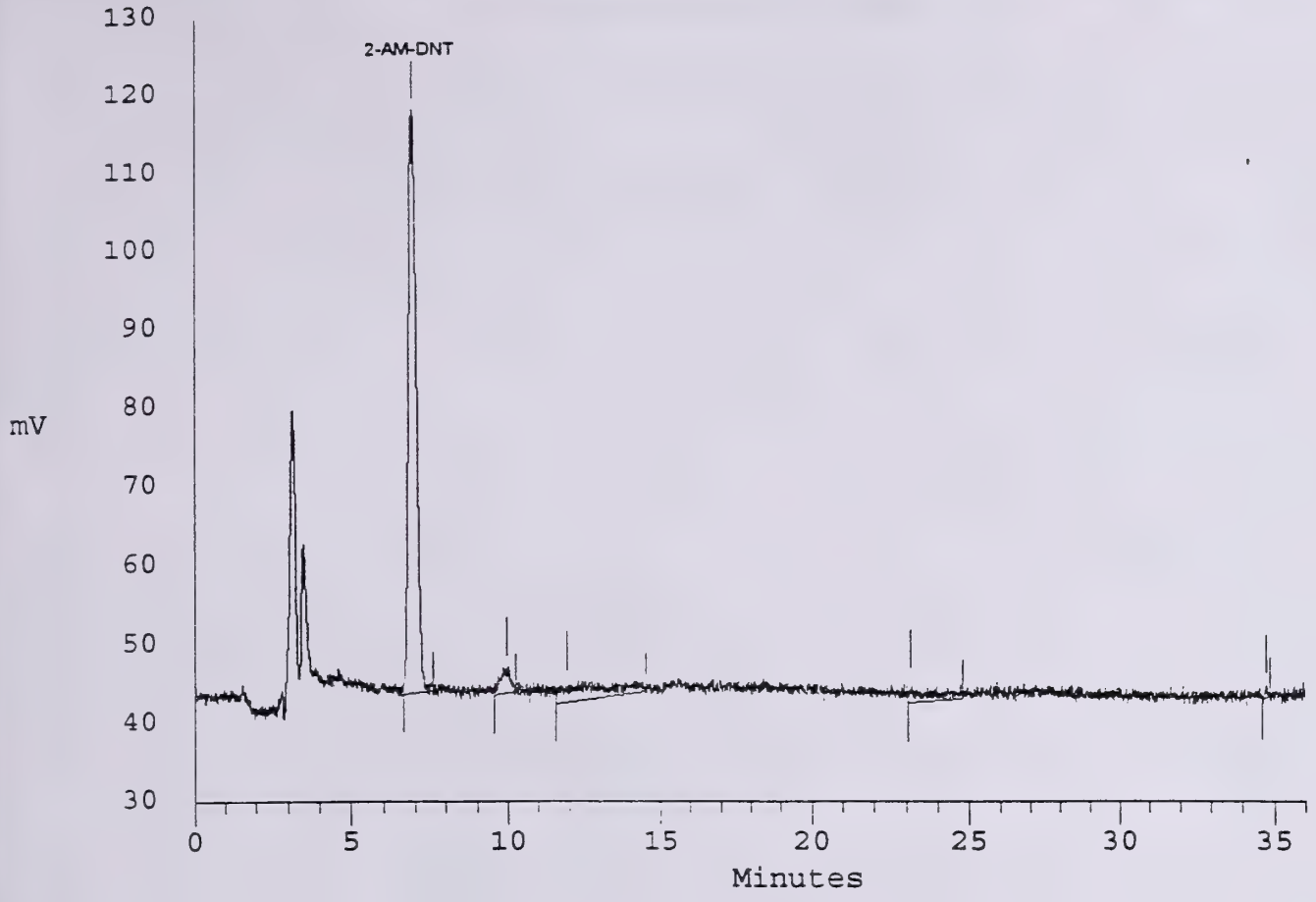
Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
0	0.00	0.00	1,3,5-TRINITROBENZ	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
1	6.90	0.00	2-AM-DNT	1289435	0.000
0	0.00	0.00	4-AM-DNT	0	0.000
0	0.00	0.00	TNT	0	0.000
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	1289435	0.000

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	9.97			70835	0.000
3	11.93			209792	0.000
4	23.17			93744	0.000
			Totals	374371	0.000

000079

File: 06209601.d06 Sample: 2AM



Lockheed Analytical Services

Data Reprocessed On 06/20/1996 18:30:18

Sample Name: 135TNB Date: 06/20/1996 00:45:36
Data File : E:\DX\DATA\HPLCA\8330\062096\06209601.d09
Method : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:UV/Vis
Analyst : PERCY Column: IB-SIL 5 CN

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

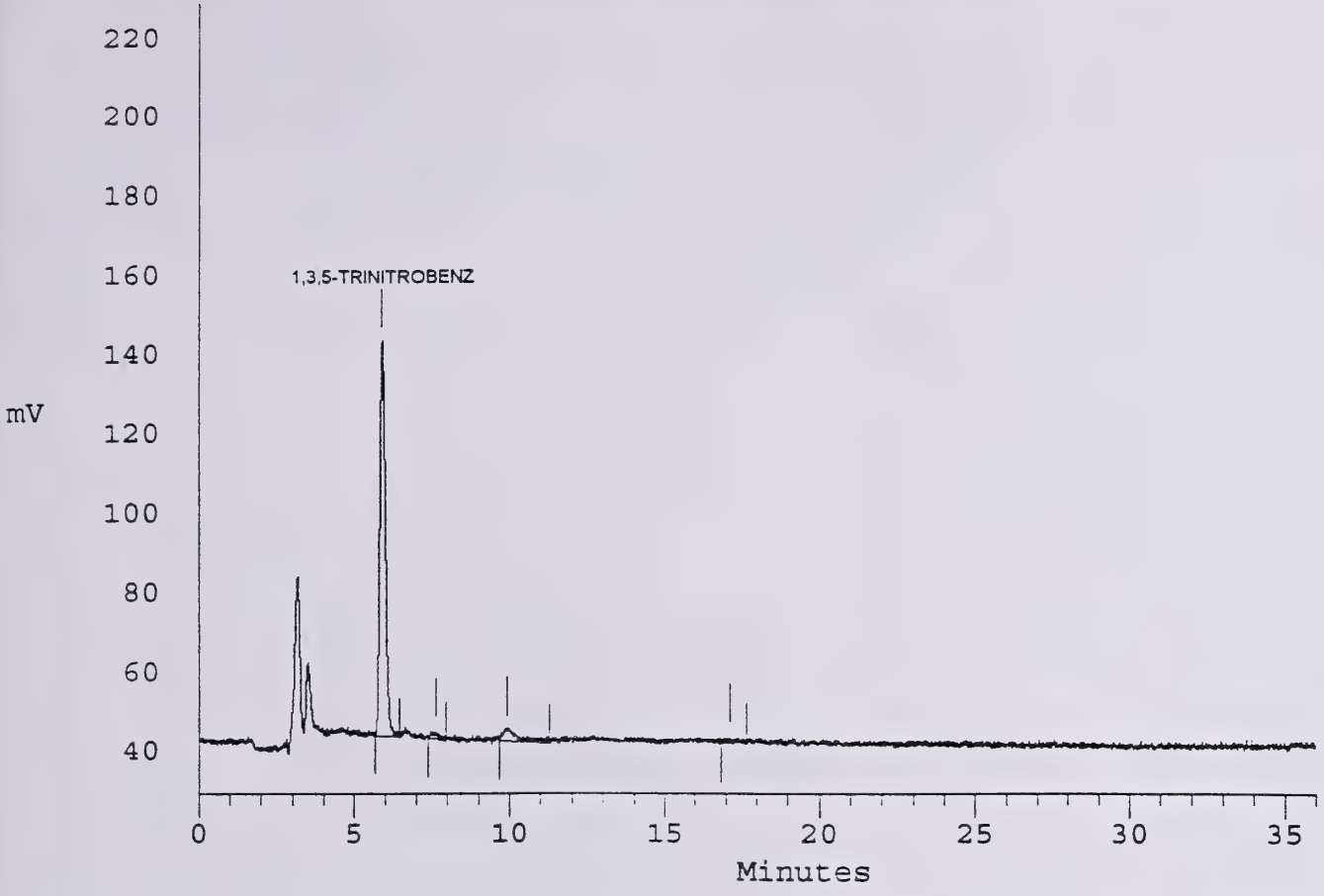
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
1	5.90	0.00	1,3,5-TRINITROBENZ	1248111	1.668
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2-AM-DNT	0	0.000
0	0.00	0.00	4-AM-DNT	0	0.000
0	0.00	0.00	TNT	0	0.000
	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	1248111	1.668

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	7.60			28982	0.000
3	9.93			115466	0.000
4	17.13			22828	0.000
			Totals	167275	0.000

File: 06209601.d09 Sample: 135TNB



Lockheed Analytical Services

Data Reprocessed On 06/20/1996 18:30:54

```
mple Name: 246TNT                                Date: 06/20/1996 09:35:30
 a File  : E:\DX\DATA\HPLCA\8330\062096\06209601.d22
hod      : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1  System: 1  Inject#: 22                    Detector:UV/Vis
Analyst  : PERCY          Column: IB-SIL 5 CN
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

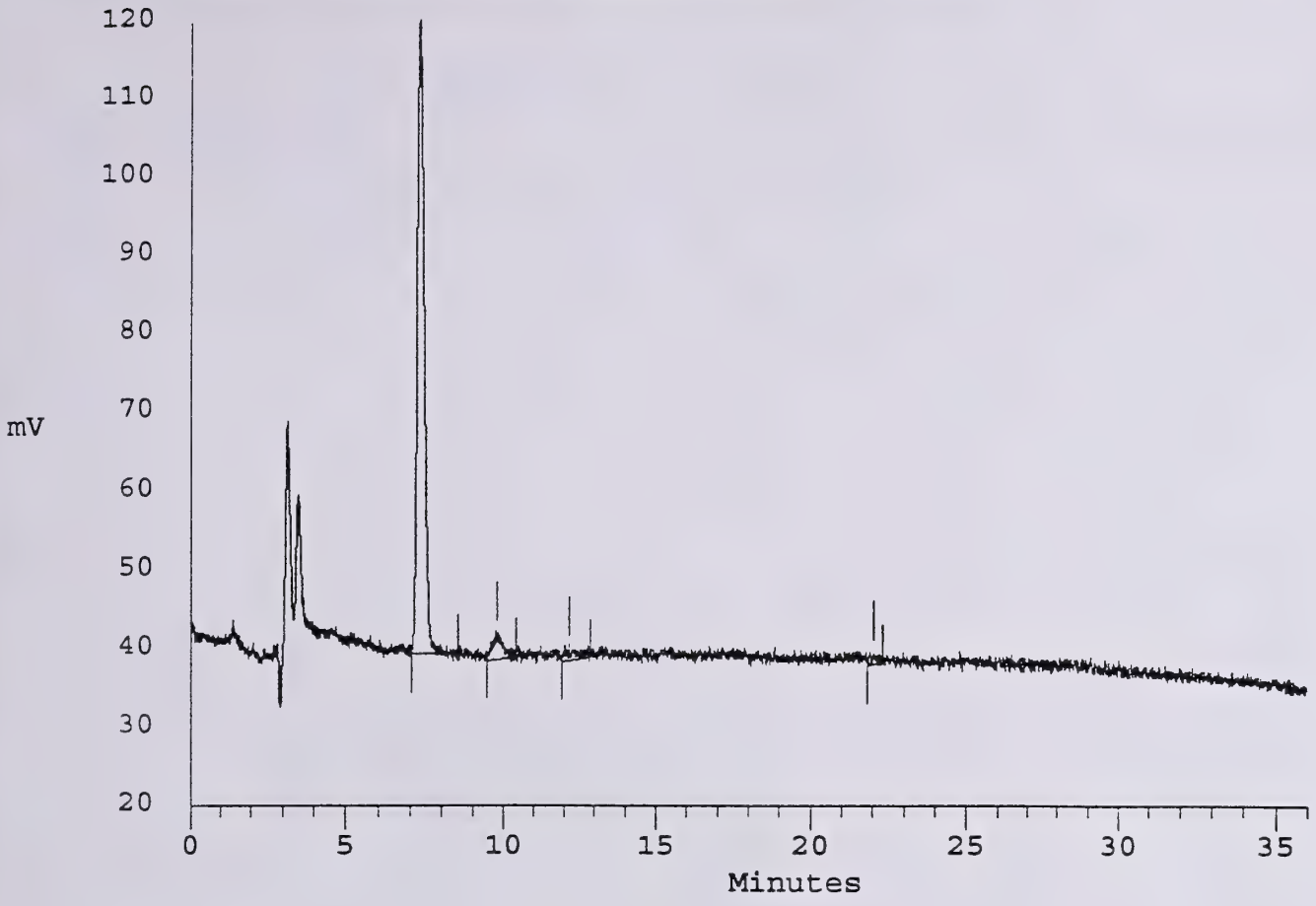
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
0	0.00	0.00	1,3,5-TRINITROBENZ	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2-AM-DNT	0	0.000
0	0.00	0.00	4-AM-DNT	0	0.000
	7.30	-0.41	TNT	1203264	4.267
	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	1203264	4.267

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	9.80			71186	0.000
3	12.17			45815	0.000
4	22.03			22486	0.000
			Totals	139487	0.000

File: 06209601.d22 Sample: 246TNT



Lockheed Analytical Services

Data Reprocessed On 06/20/1996 18:46:54

```
Sample Name: 4-AM                                  Date: 06/20/1996 10:13:45
Data File  : E:\DX\DATA\HPLCA\8330\062096\06209601.D23
Method     : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1  System: 1  Inject#: 23                    Detector:UV/Vis
Analyst    : PERCY          Column: IB-SIL 5 CN
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

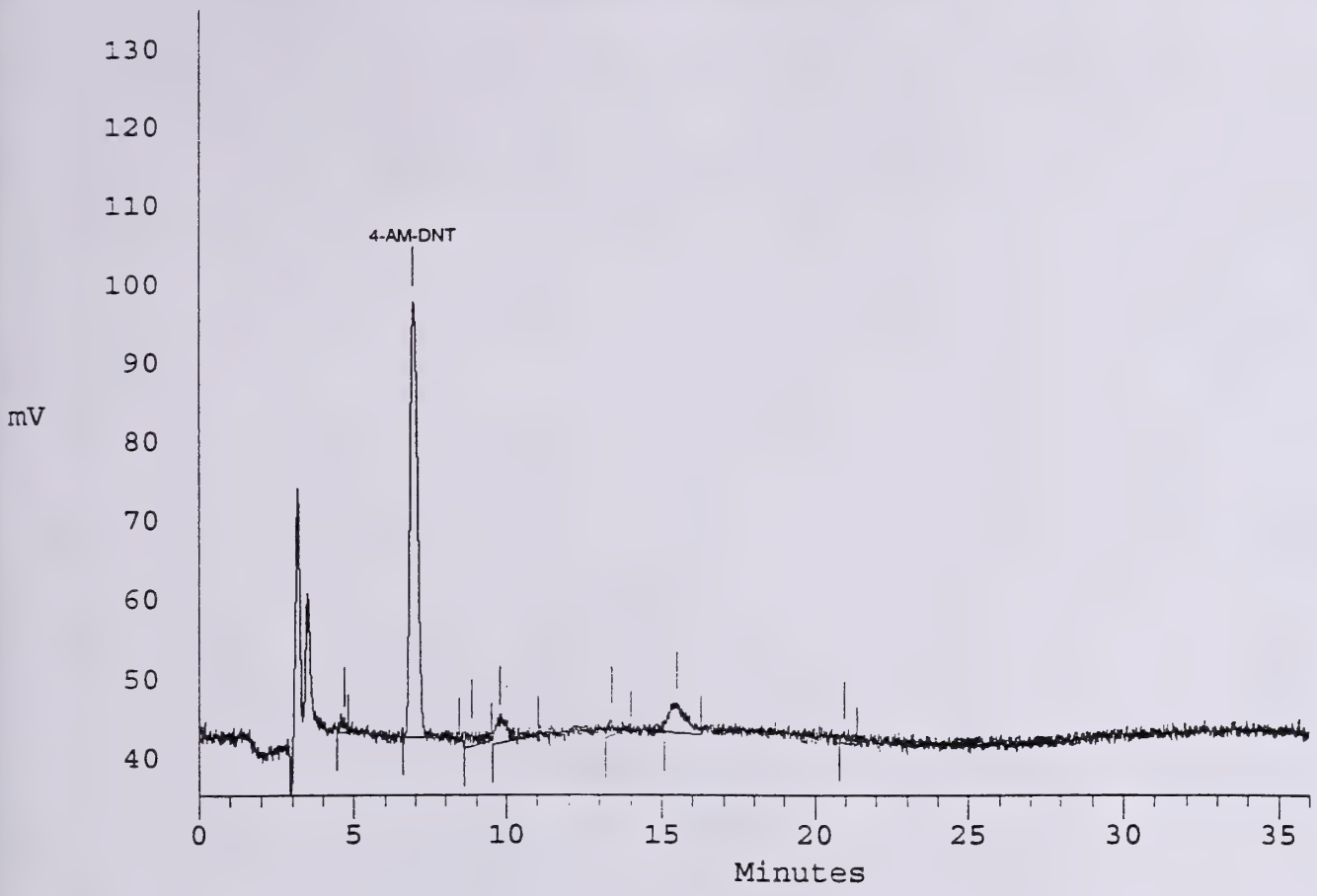
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
0	0.00	0.00	1,3,5-TRINITROBENZ	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2-AM-DNT	0	0.000
2	6.93	-0.24	4-AM-DNT	934229	0.000
0	0.00	0.00	TNT	0	0.000
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	934229	0.000

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.70			19329	0.000
3	8.83			44084	0.000
4	9.80			96422	0.000
5	13.40			28360	0.000
6	15.50			143817	0.000
7	20.97			27139	0.000
			Totals	359150	0.000

File: 06209601.D23 Sample: 4-AM



Lockheed Analytical Services

Data Reprocessed On 06/20/1996 18:30:59

Sample Name: 2AM Date: 06/20/1996 10:52:00
Data File : E:\DX\DATA\HPLCA\8330\062096\06209601.d24
Method : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1 System: 1 Inject#: 24 Detector:UV/Vis
Analyst : PERCY Column: IB-SIL 5 CN

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

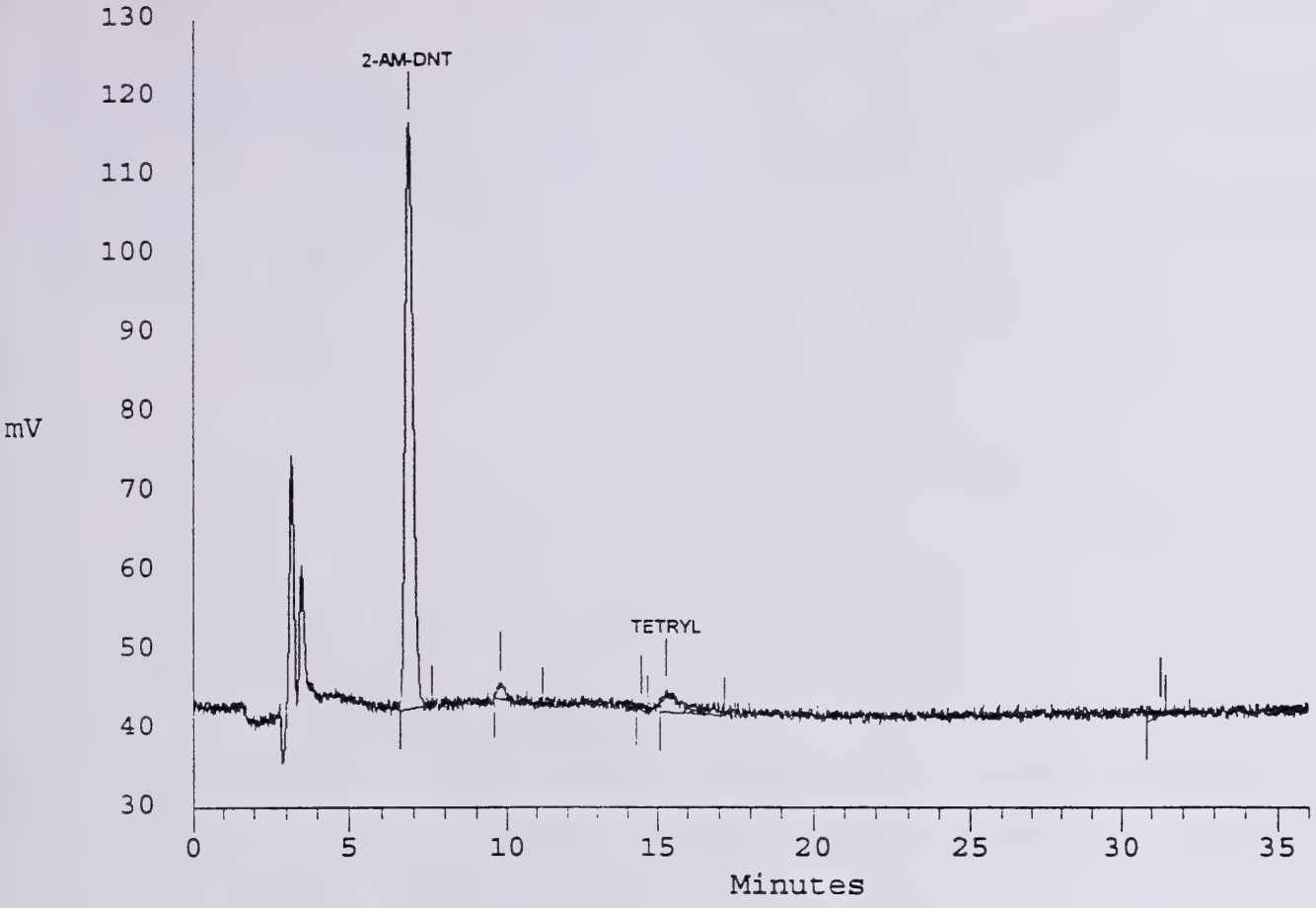
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
0	0.00	0.00	1,3,5-TRINITROBENZ	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
1	6.87	-0.48	2-AM-DNT	1276593	0.000
0	0.00	0.00	4-AM-DNT	0	0.000
0	0.00	0.00	TNT	0	0.000
0	0.00	0.00	HMX	0	0.000
4	15.30	-0.20	TETRYL	135729	0.282
			Totals	1412323	0.282

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	9.80			41407	0.000
5	31.27			19971	0.000
			Totals	61378	0.000

File: 06209601.d24 Sample: 2AM



Lockheed Analytical Services

Data Reprocessed On 06/20/1996 18:31:07

```
Sample Name: 135TNB                              Date: 06/20/1996 12:47:04
Data File  : E:\DX\DATA\HPLCA\8330\062096\06209601.d27
Method     : E:\DX\METHOD\HPLCA\8330\062096.MET
ACI Address: 1  System: 1  Inject#: 27                  Detector:UV/Vis
Analyst    : PERCY          Column: IB-SIL 5 CN
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	10000

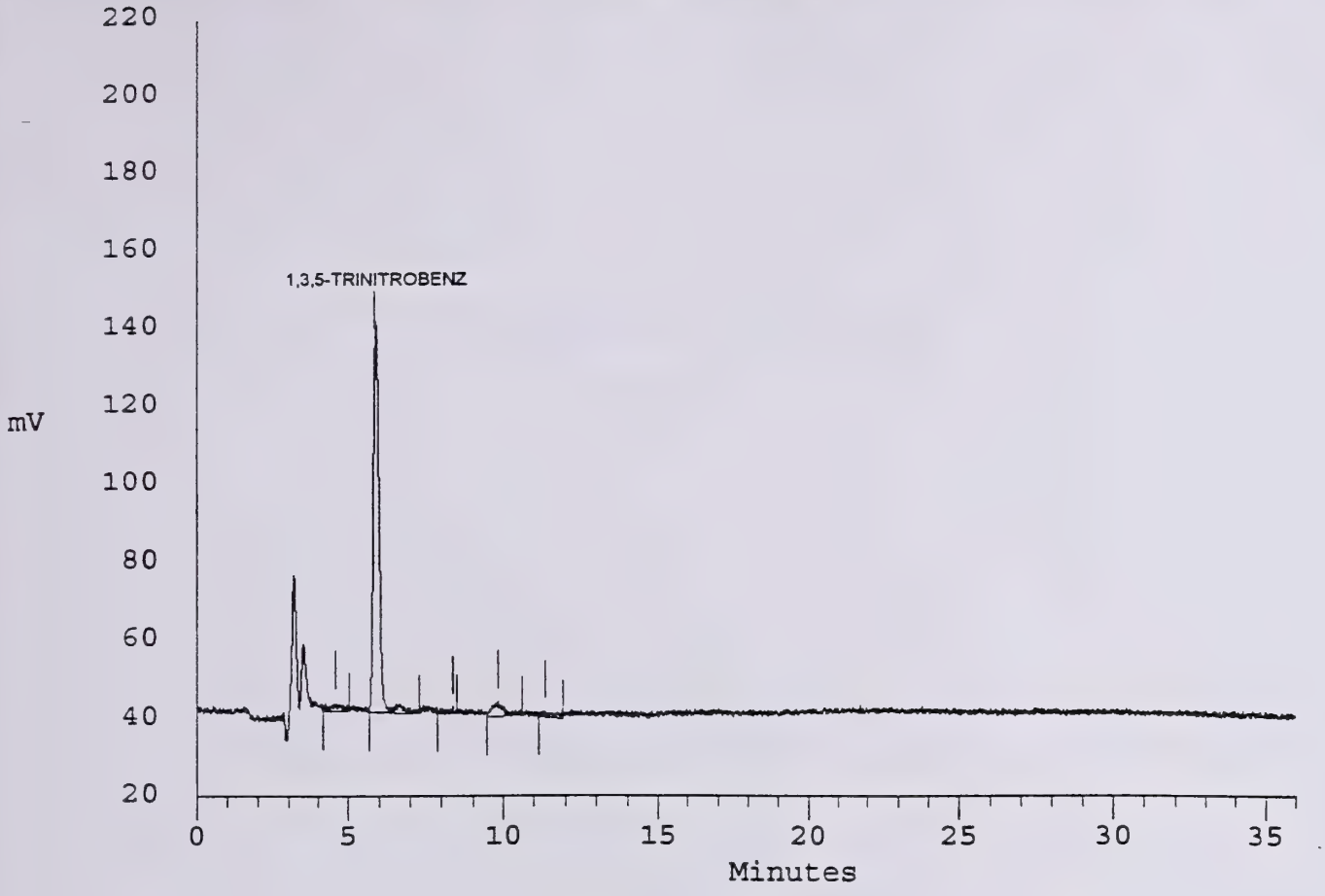
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	1,3-DINITROBENZEN	0	0.000
2	5.87	-0.56	1,3,5-TRINITROBENZ	1310599	1.751
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	2-NITROTOLUENE	0	0.000
0	0.00	0.00	4-NITROTOLUENE	0	0.000
0	0.00	0.00	3-NITROTOLUENE	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2-AM-DNT	0	0.000
0	0.00	0.00	4-AM-DNT	0	0.000
0	0.00	0.00	TNT	0	0.000
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	TETRYL	0	0.000
			Totals	1310599	1.751

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.57			52719	0.000
3	8.33			19914	0.000
4	9.83			96767	0.000
5	11.33			38041	0.000
			Totals	207441	0.000

File: 06209601.d27 Sample: 135TNB



CALIBRATION DATA

062196

DIONEX METHOD PARAMETERS - 062196.MET

Method Comment: 0.75 ml/min 30 degrees 47/53 water/methyl alcohol, 254nm until 26 minutes then 210 nm
Column ID: ULTRACARB 5 ODS-20 250X4.6 86610
Analyst ID: D. Percy

System Parameters

System Name: GC/PID/ELCD	
Number of Detectors	1
Run Time (minutes)	36.00
Sampling Rate (seconds)	0.20
Detector 1 Type	UV/Vis
Detector 1 real time plot scale maximum (mV)	200.000
minimum	0.000
Detector 1 Output Equivalent to 1 Volt (in mV)	1000.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes
Data File Name: E:\DX\DATA\HPLCA\8330\062196\06219601.D05	

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	No
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	No
Print Unknown Peaks	Yes
Print Chromatogram	No
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	5.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	5.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Integration Parameters

Starting Peak Width (seconds)	20.0
Peak Threshold	0.800
Peak Area Reject	5000
Area Reject for Reference Peaks	1000

Data Events

Time	Description
0.00	Stop peak detection
4.62	Start peak detection

Calibration Parameters

Number Of Levels for Calibration	5
Force Calibration Curve Through Origin	Yes
Calibration Fit Type	Linear
Replace Or Average Calibrations	Average
External or Internal Calibration	External
Calculate Unknowns by Area or Height	Area
Default Sample Volume	1.0
Default Dilution Factor	1.0
Default Response Factor for Unknown Peaks	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	ug/g

Component Table -- Last Modified: 10:13 on Fri, 21 Jun 1996

Component # 1 HMX Retention Time 5.63
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.38130E-007

Level	Amount	Area	Height
1	2.00000E-002	43600	3319
2	1.00000E-001	315771	27760
3	2.50000E-001	764876	60016
4	5.00000E-001	1540396	113598
5	8.00000E-001	2314028	182336

Component # 2 4-NA**Surrogate* Retention Time 7.40
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.81308E-007

Level	Amount	Area	Height
1	8.00000E-002	309387	12350
2	5.00000E-001	1901461	86032
3	1.26000E+000	4677978	184738
4	2.52000E+000	9390501	353307
5	4.02000E+000	13914239	561609

Component # 3 RDX Retention Time 8.70
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.39240E-007

Level	Amount	Area	Height
1	2.00000E-002	185064	4263
2	1.00000E-001	463964	20578
3	2.50000E-001	1062954	44090
4	5.00000E-001	2203131	86371
5	8.00000E-001	3248952	134878

Component # 4 135-Trinitrobenze Retention Time 11.83
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.10069E-007

Level	Amount	Area	Height
1	2.00000E-002	177516	7140
2	1.00000E-001	956139	42077
3	2.50000E-001	2400605	94323
4	5.00000E-001	4754469	185782
5	8.00000E-001	7075557	281337

Component # 5 1,3-Dinitrobenzen Retention Time 14.50
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 7.57884E-008

Level	Amount	Area	Height
1	2.00000E-002	233128	7357
2	1.00000E-001	1447008	48644
3	2.50000E-001	3428090	112536
4	5.00000E-001	6935352	221526
5	8.00000E-001	10266858	330434

Component # 6 Tetryl Retention Time 15.77
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.55496E-007

Level	Amount	Area	Height
1	2.00000E-002	118958	4779
2	1.00000E-001	709103	26935
3	2.50000E-001	1721365	61937
4	5.00000E-001	3433727	122201
5	8.00000E-001	4944507	176932

Component # 7 Nitrobenzene Retention Time 16.53
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.00743E-007

Level	Amount	Area	Height
1	2.00000E-002	133829	4151
2	1.00000E-001	1063569	32750
3	2.50000E-001	2488763	72553
4	5.00000E-001	5230948	146097
5	8.00000E-001	7749255	216692

Component # 8 Nitroglycerin Retention Time 17.88
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.46811E-007

Level	Amount	Area	Height
1	1.00000E-001	117279	3114
2	5.00000E-001	265272	11035
3	1.00000E+000	754044	33773
4	1.50000E+000	5068236	125577
5	2.00000E+000	5430091	210016

Component # 9 246-Trinitrotolue Retention Time 19.00
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.38188E-007

Level	Amount	Area	Height
1	2.00000E-002	128101	4751
2	1.00000E-001	770693	23158
3	2.50000E-001	1840883	55791
4	5.00000E-001	3803164	113066
5	8.00000E-001	5648321	165920

Component # 10 4-Am-2,6-DNT Retention Time 19.80
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.67154E-007

Level	Amount	Area	Height
1	2.00000E-002	117849	2997
2	1.00000E-001	605570	17271
3	2.50000E-001	1519150	39809
4	5.00000E-001	3238178	81119
5	8.00000E-001	4603628	120326

Component # 11 2-Am-4,6-DNT Retention Time 20.77
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.07436E-007

Level	Amount	Area	Height
1	2.00000E-002	151932	4430
2	1.00000E-001	942115	23958
3	2.50000E-001	2424408	56434
4	5.00000E-001	4872782	110143
5	8.00000E-001	7266231	164408

Component # 12 2,6-DNT Retention Time 22.49
Reference Comp. none Window Size 0.40 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.90627E-007

Level	Amount	Area	Height
1	2.00000E-002	104888	3019
2	1.00000E-001	543642	16981
3	2.50000E-001	1432173	45127
4	5.00000E-001	2772141	89286
5	8.00000E-001	4049288	130145

Component # 13 2,4-DNT Retention Time 22.90
Reference Comp. none Window Size 0.40 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 7.54822E-008

Level	Amount	Area	Height
1	2.00000E-002	177779	5345
2	1.00000E-001	1321410	31734
3	2.50000E-001	3421176	78342
4	5.00000E-001	6985094	154132
5	8.00000E-001	10319936	227077

Component # 14 2-Nitrotoluene Retention Time 27.13
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.70561E-007

Level	Amount	Area	Height
1	2.00000E-002	130277	2770
2	1.00000E-001	617760	12918
3	2.50000E-001	1571998	30947
4	5.00000E-001	3054115	60883
5	8.00000E-001	4567205	90671

Component # 15 4-Nitrotoluene Retention Time 29.00
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.92975E-007

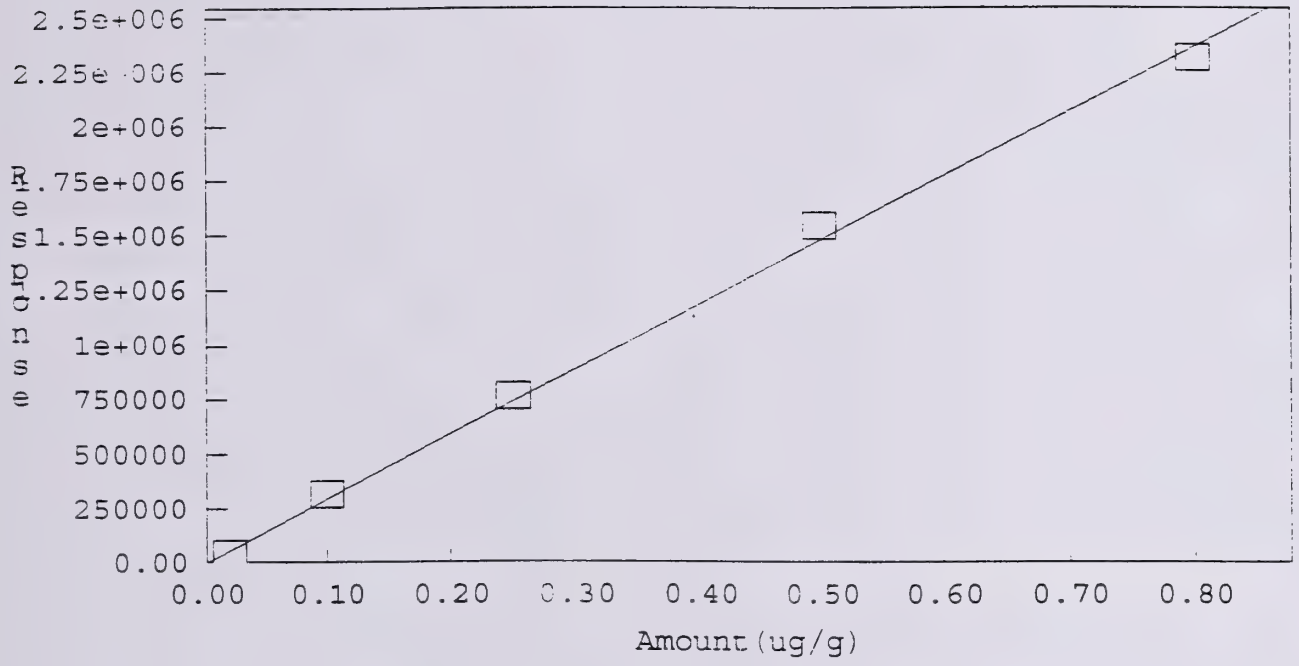
Level	Amount	Area	Height
1	2.00000E-002	112046	2871
2	1.00000E-001	586353	10524
3	2.50000E-001	1325280	25271
4	5.00000E-001	2738328	50400
5	8.00000E-001	4025453	75053

Component # 16 3-Nitrotoluene Retention Time 31.27
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.53412E-007

Level	Amount	Area	Height
1	2.00000E-002	191356	3534
2	1.00000E-001	680383	12525
3	2.50000E-001	1814228	30461
4	5.00000E-001	3455272	59086
5	8.00000E-001	5006263	87145

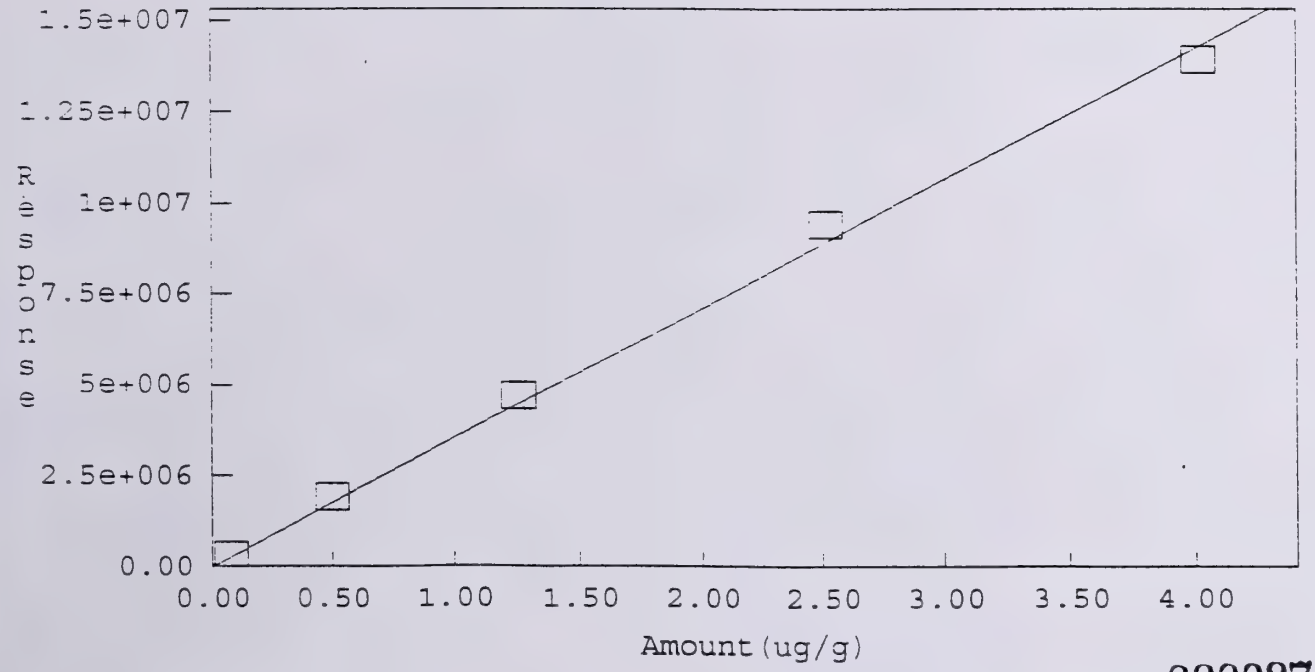
-Method Updated: 10:08 on Fri, 21 Jun 1996

Component: HMX
Fit Type: Linear
r^2 = 0.997800
Amt = Resp * 3.381e-007 + 0
Resp = Amt * 2.957e+006 + 0
Standardization: External
Calibration: Area



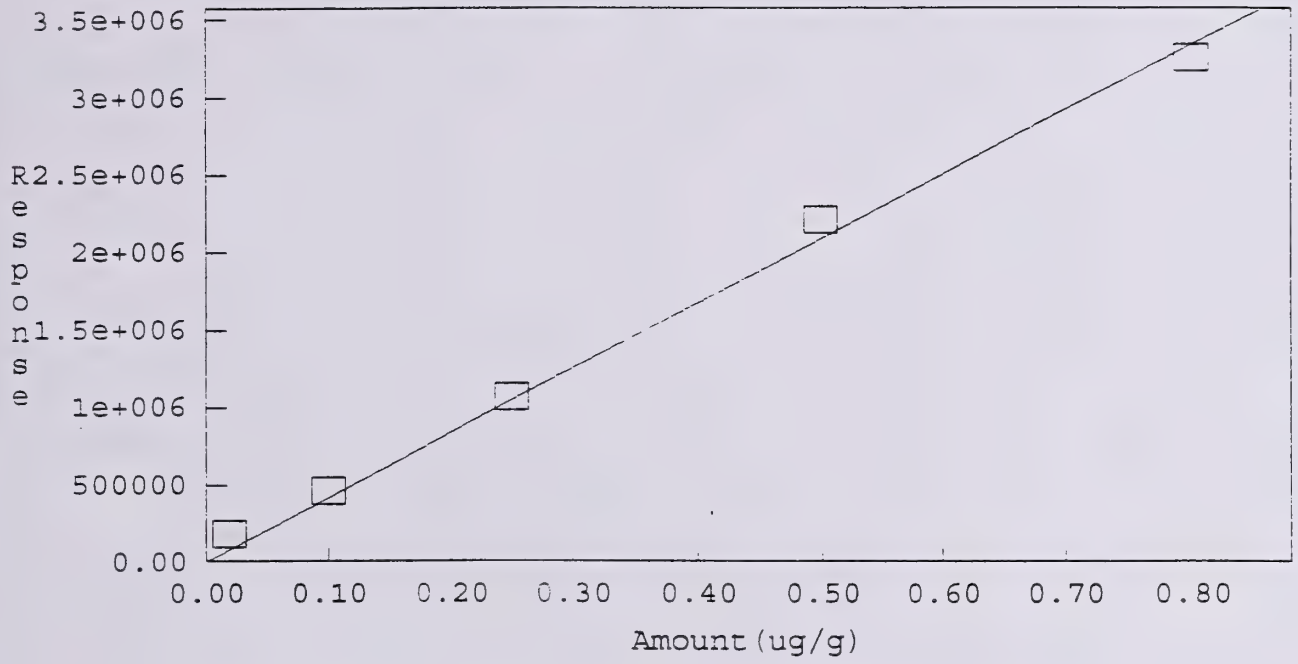
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 4-NA**Surrogate*
Fit Type: Linear
r^2 = 0.997053
Amt = Resp * 2.813e-007 + 0
Resp = Amt * 3.555e+006 + 0
Standardization: External
Calibration: Area



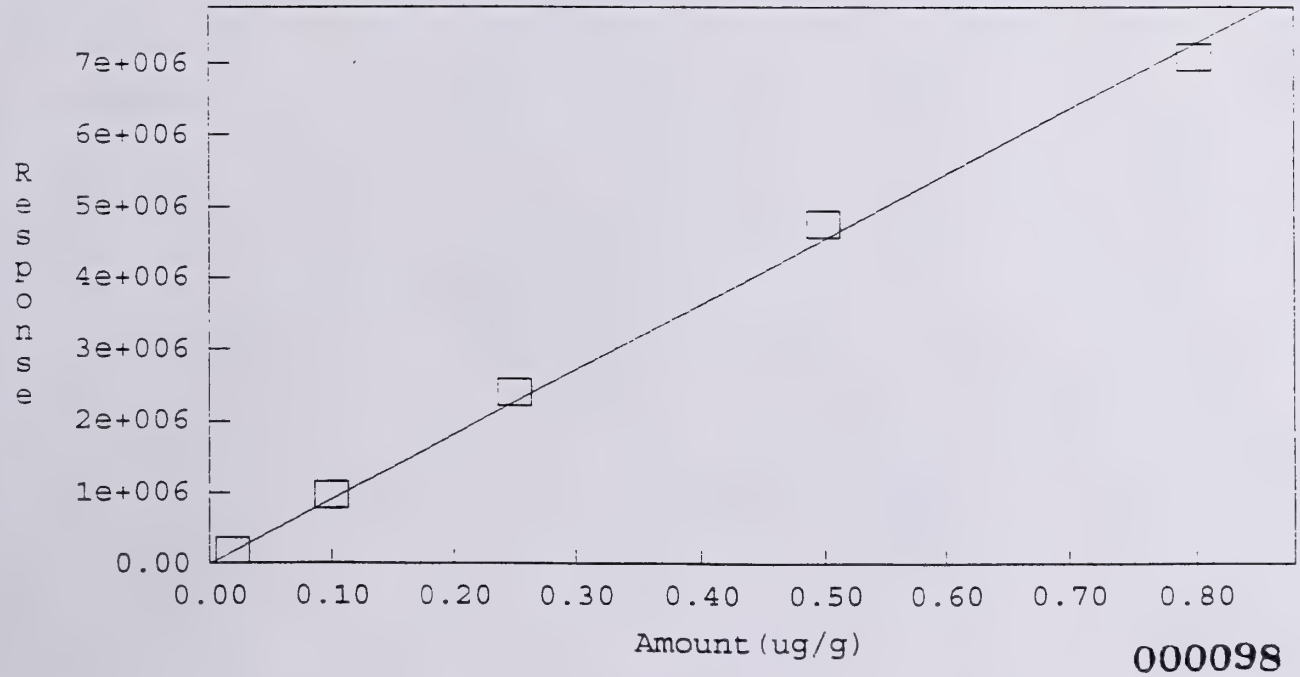
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: RDX
Fit Type: Linear
r^2 = 0.995117
Amt = Resp * 2.392e-007 + 0
Resp = Amt * 4.18e+006 + 0
Standardization: External
Calibration: Area



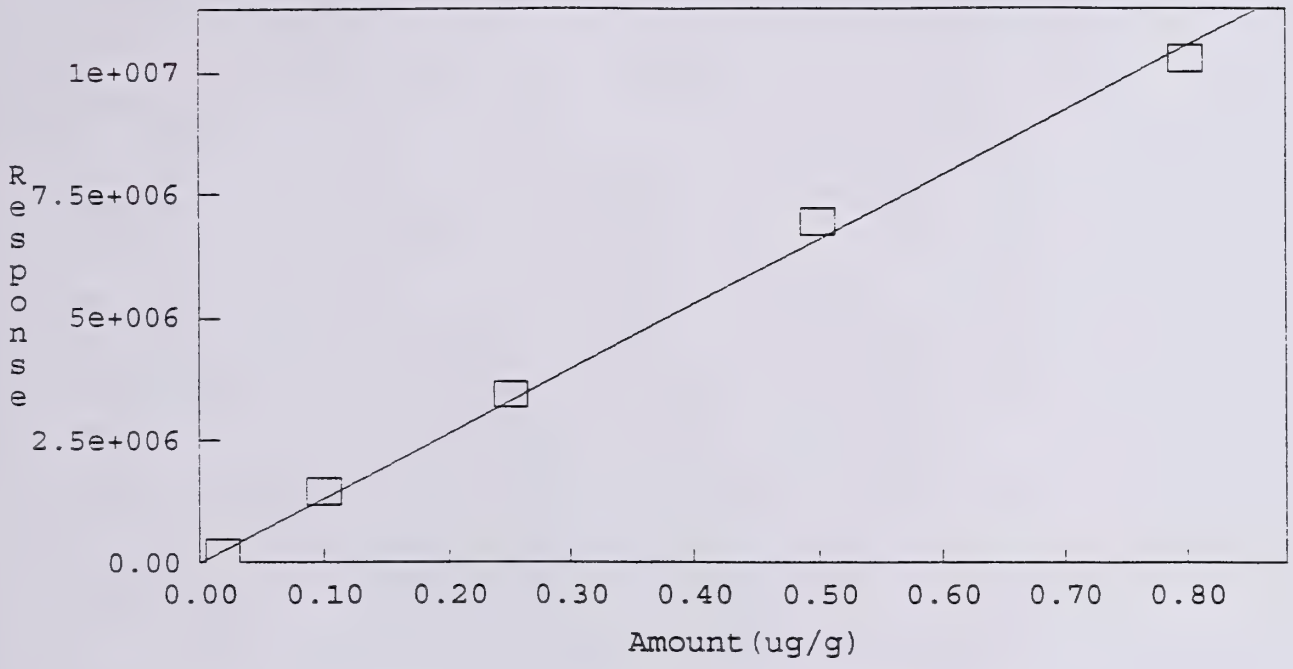
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 135-Trinitrobenze
Fit Type: Linear
r^2 = 0.996980
Amt = Resp * 1.101e-007 + 0
Resp = Amt * 9.085e+006 + 0
Standardization: External
Calibration: Area



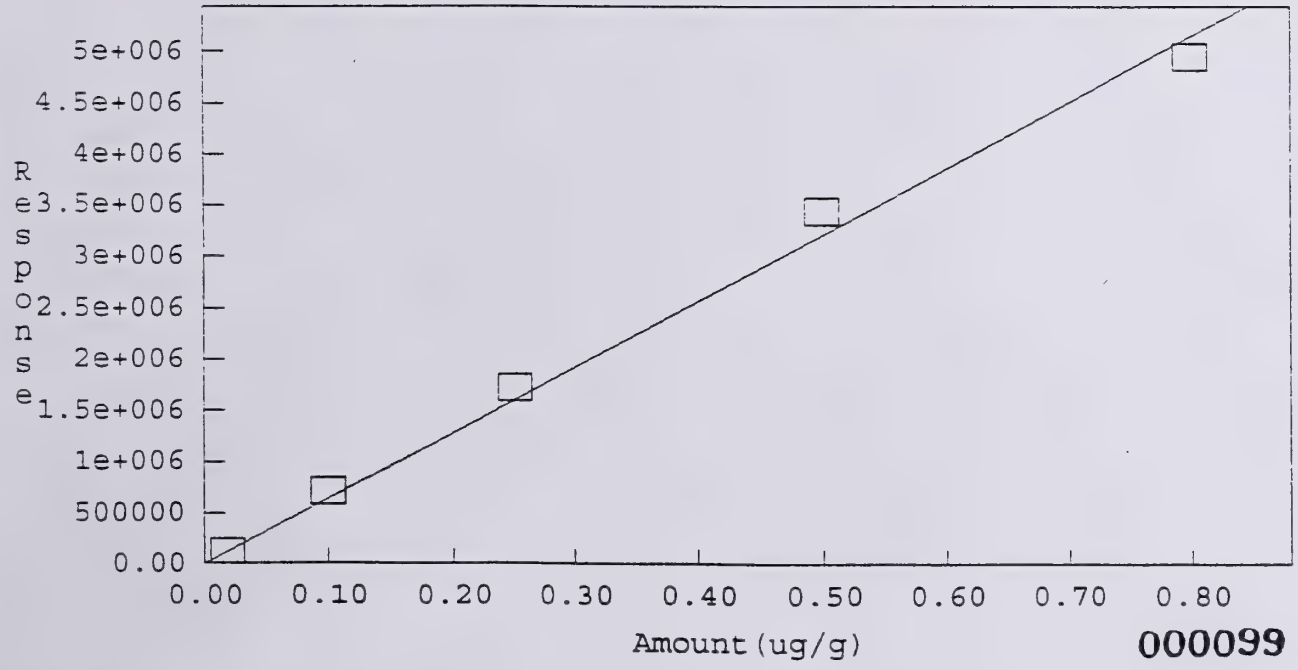
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 1,3-Dinitrobenzen
Fit Type: Linear
r^2 = 0.996715
Amt = Resp * 7.579e-008 + 0
Resp = Amt * 1.319e+007 + 0
Standardization: External
Calibration: Area



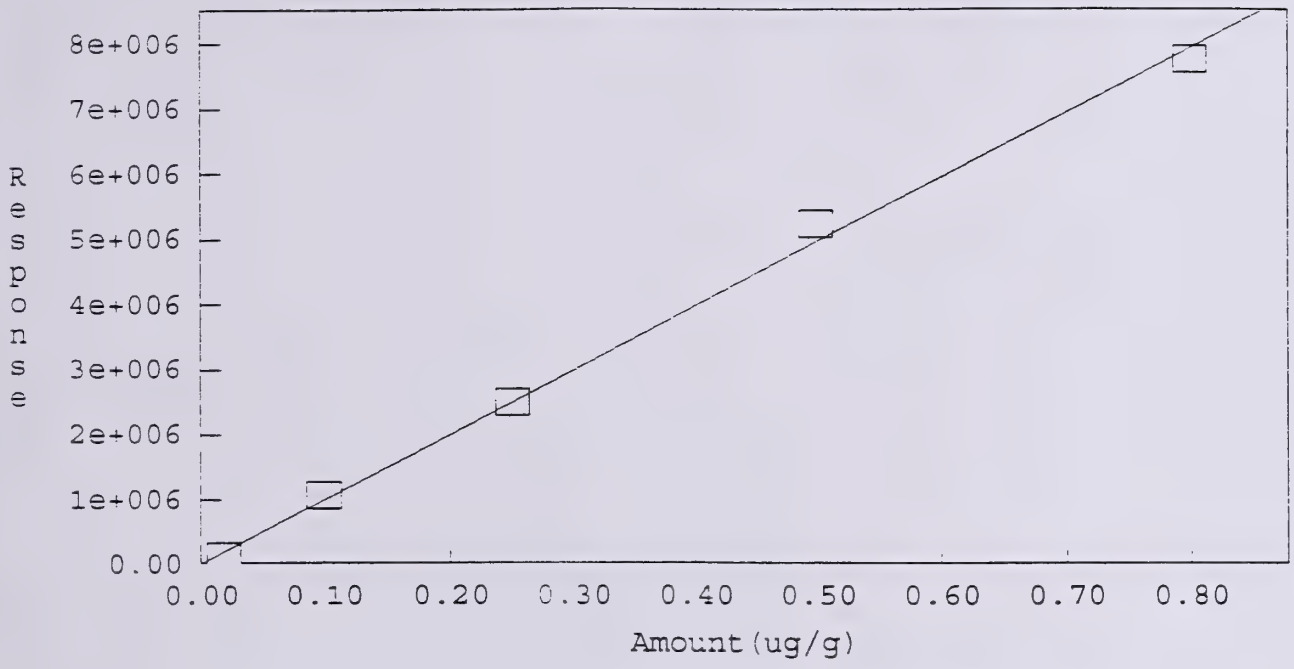
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: Tetryl
Fit Type: Linear
r^2 = 0.993727
Amt = Resp * 1.555e-007 + 0
Resp = Amt * 6.431e+006 + 0
Standardization: External
Calibration: Area



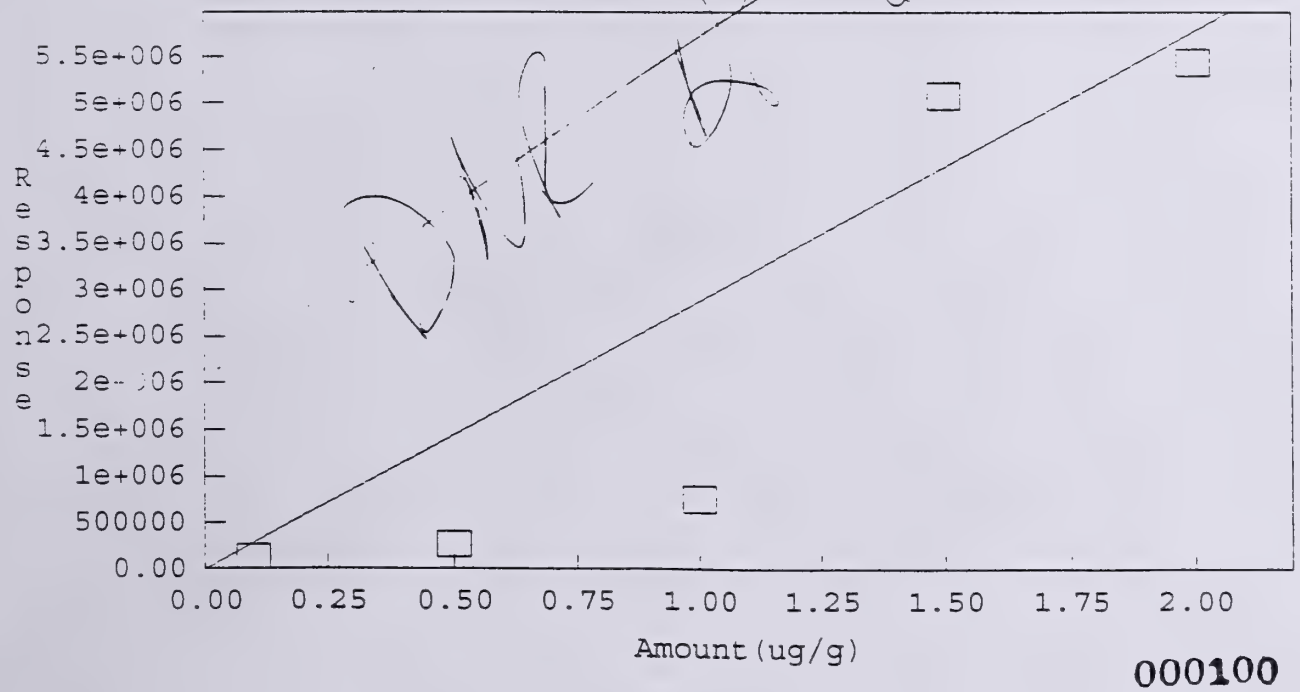
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: Nitrobenzene
Fit Type: Linear
r^2 = 0.997050
Amt = Resp * 1.007e-007 + 0
Resp = Amt * 9.926e+006 + 0
Standardization: External
Calibration: Area



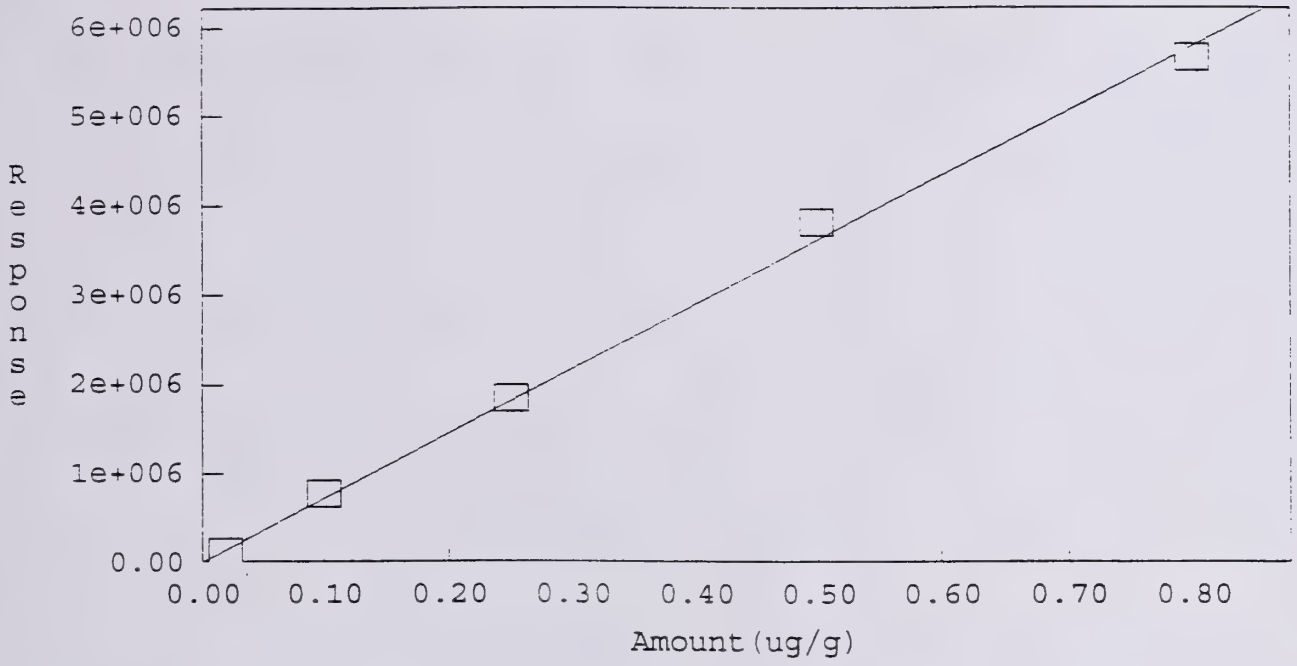
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: Nitroglycerin
Fit Type: Linear
r^2 = 0.655369
Amt = Resp * 3.468e-007 + 0
Resp = Amt * 2.883e+006 + 0
Standardization: External
Calibration: Area



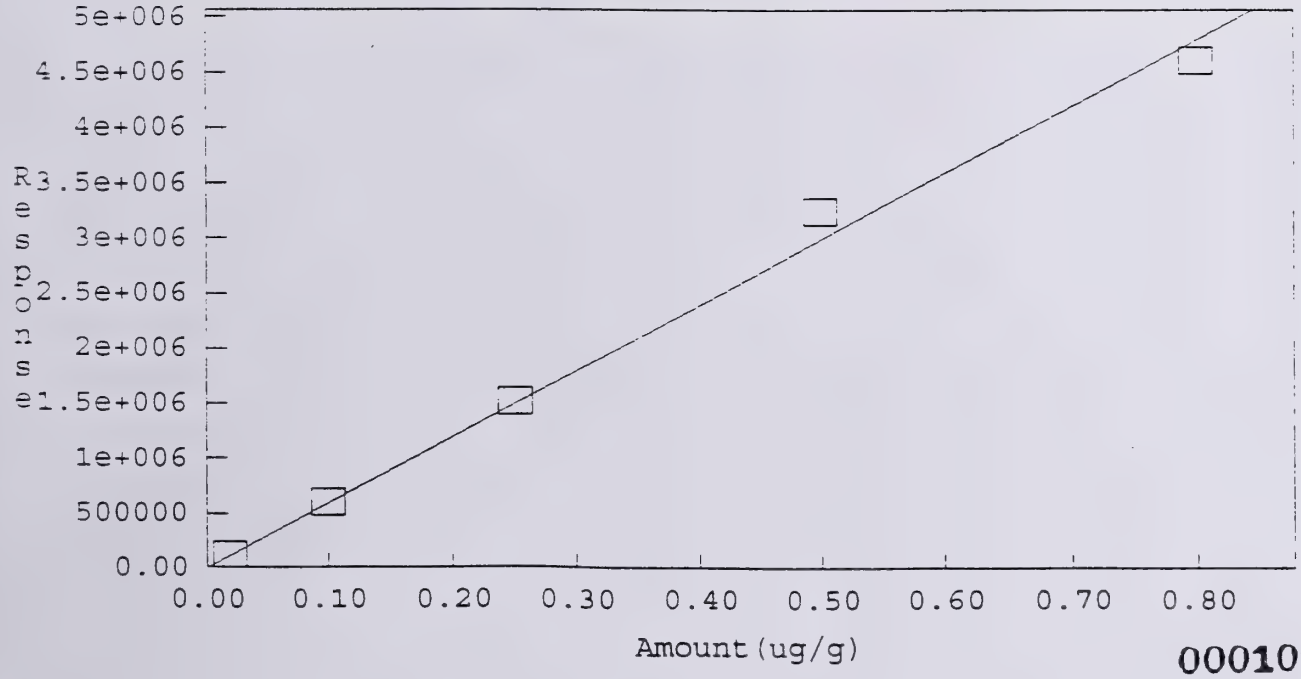
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 246-Trinitrotolue
Fit Type: Linear
r^2 = 0.997288
Amt = Resp * 1.382e-007 + 0
Resp = Amt * 7.237e+006 + 0
Standardization: External
Calibration: Area



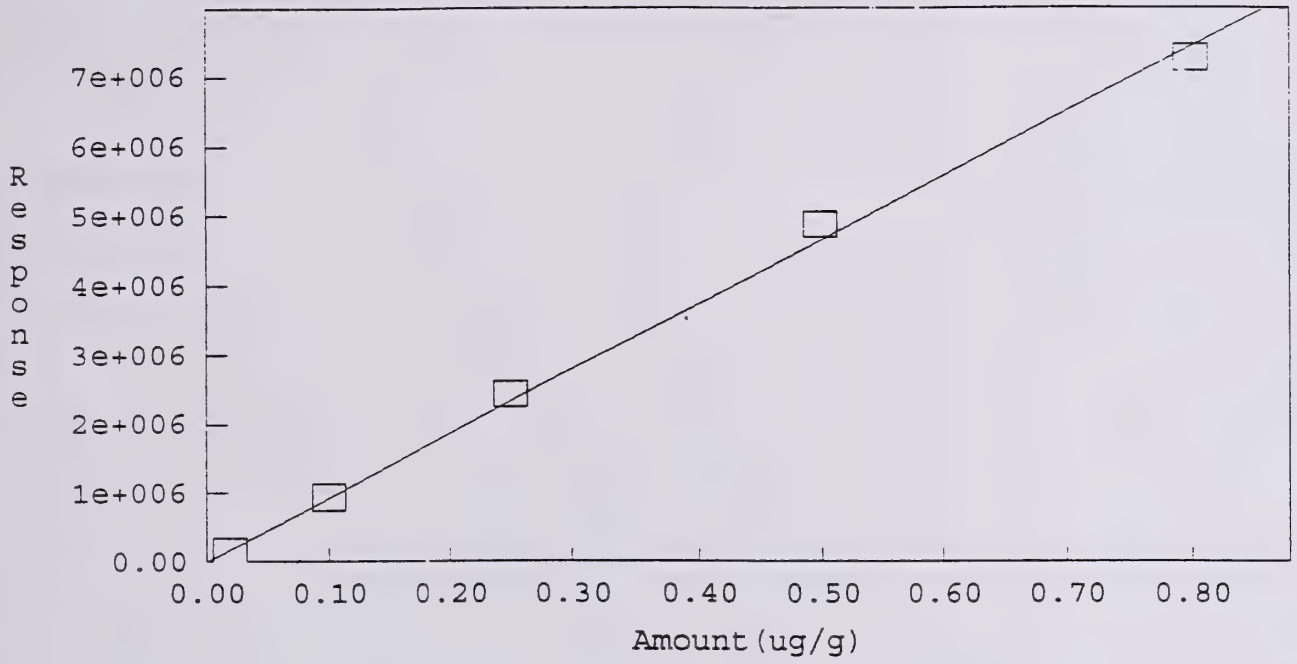
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 4-Am-2,6-DNT
Fit Type: Linear
r^2 = 0.993459
Amt = Resp * 1.672e-007 + 0
Resp = Amt * 5.982e+006 + 0
Standardization: External
Calibration: Area



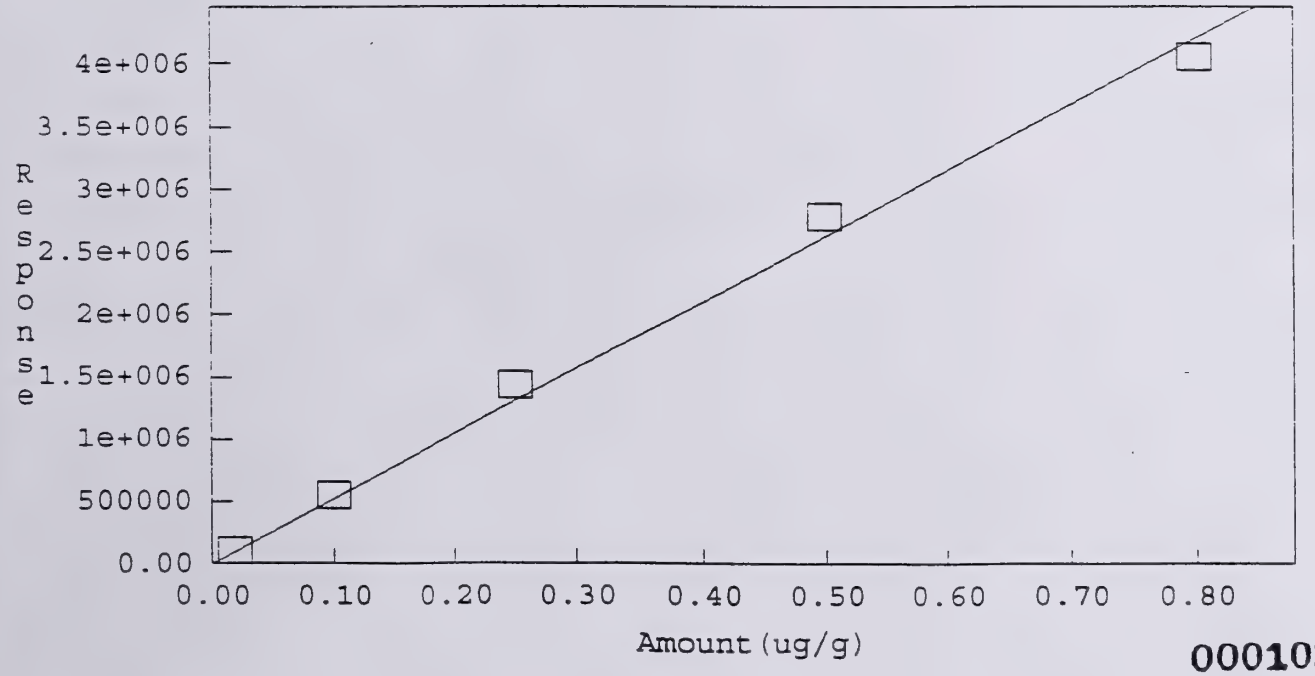
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 2-Am-4,6-DNT
Fit Type: Linear
r^2 = 0.997404
Amt = Resp * 1.074e-007 + 0
Resp = Amt * 9.308e+006 + 0
Standardization: External
Calibration: Area



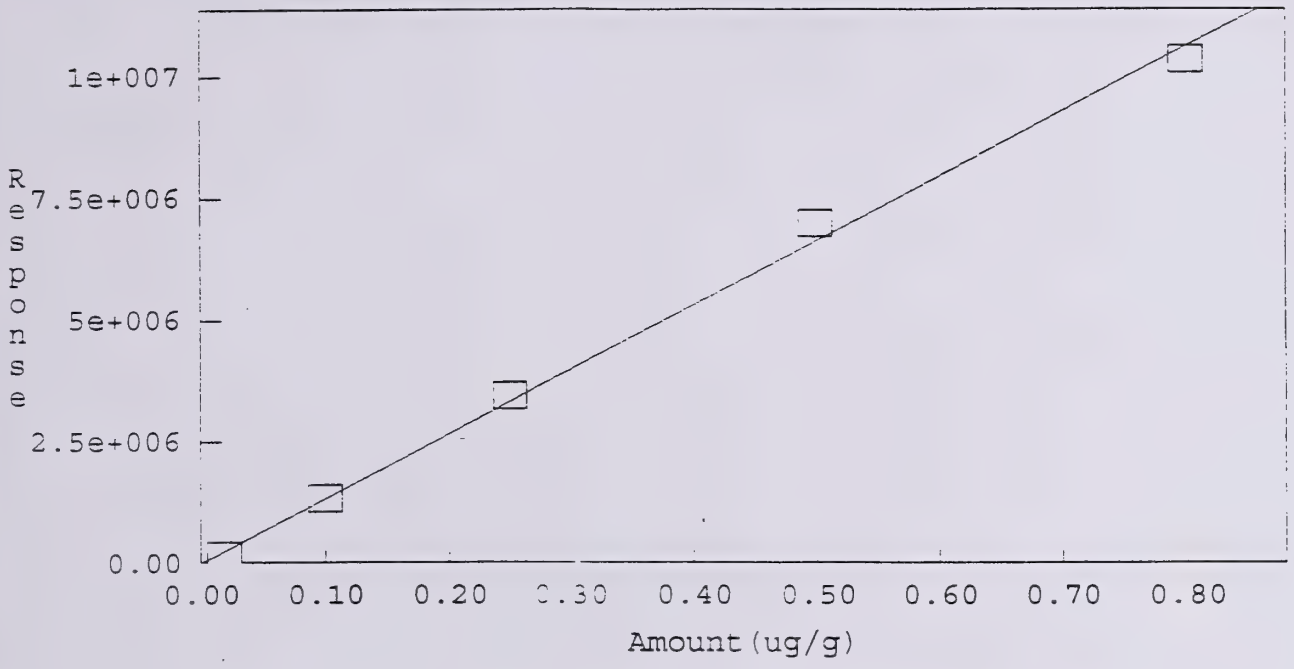
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 2,6-DNT
Fit Type: Linear
r^2 = 0.994715
Amt = Resp * 1.906e-007 + 0
Resp = Amt * 5.246e+006 + 0
Standardization: External
Calibration: Area



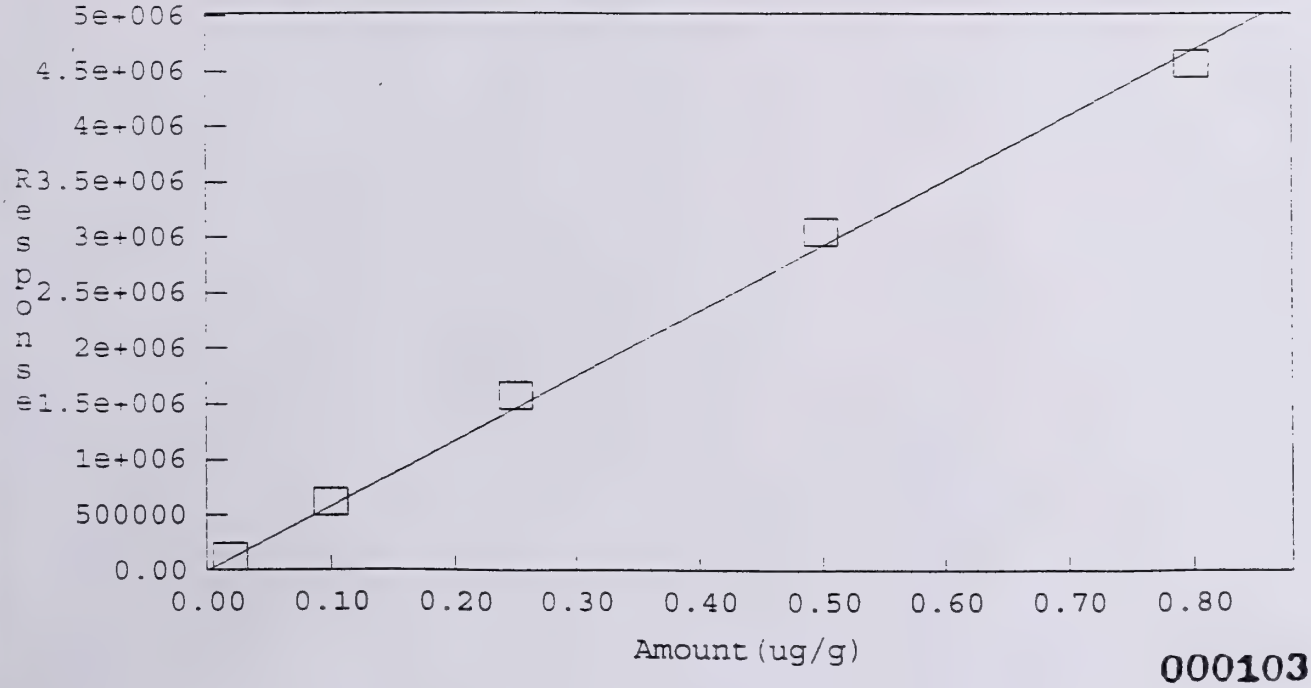
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 2,4-DNT
Fit Type: Linear
r^2 = 0.996801
Amt = Resp * 7.548e-008 + 0
Resp = Amt * 1.325e+007 + 0
Standardization: External
Calibration: Area



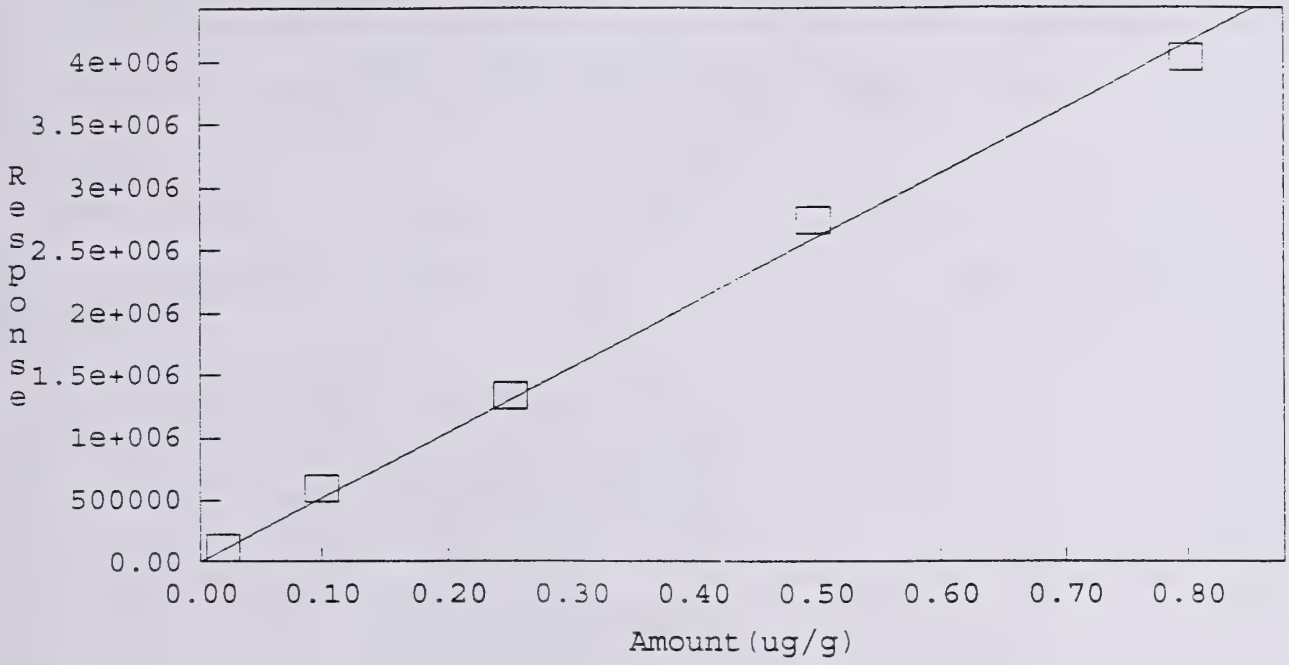
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 2-Nitrotoluene
Fit Type: Linear
r^2 = 0.996937
Amt = Resp * 1.706e-007 + 0
Resp = Amt * 5.863e+006 + 0
Standardization: External
Calibration: Area



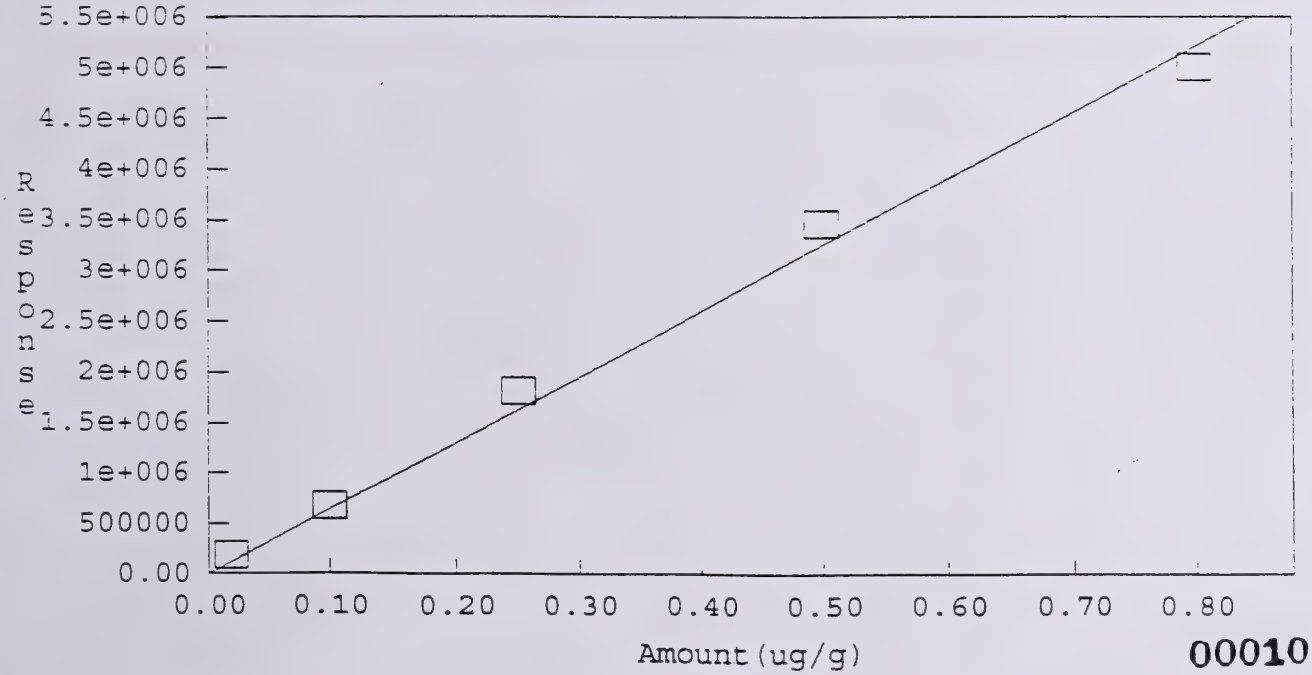
Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 4-Nitrotoluene
Fit Type: Linear
r^2 = 0.996163
Amt = Resp * 1.93e-007 + 0
Resp = Amt * 5.182e+006 + 0
Standardization: External
Calibration: Area



Method: E:\DX\METHOD\HPLCA\8330\062196.MET

Component: 3-Nitrotoluene
Fit Type: Linear
r^2 = 0.992998
Amt = Resp * 1.534e-007 + 0
Resp = Amt * 6.518e+006 + 0
Standardization: External
Calibration: Area



Lockheed Analytical Services

Data Reprocessed On 06/21/1996 10:51:39

Sample Name: IB Date: 06/20/1996 20:23:05
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d01
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

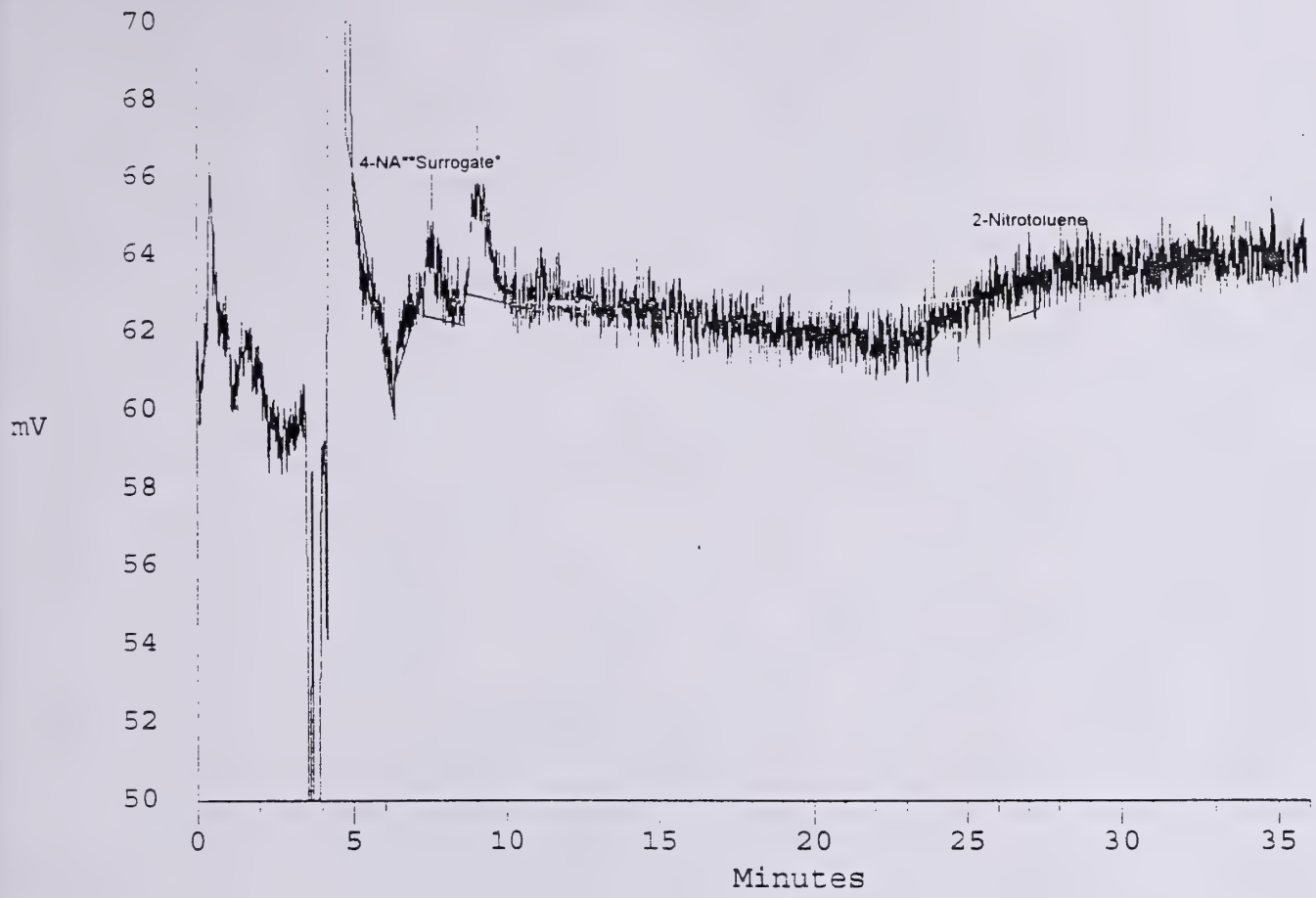
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
3	7.53	1.80	4-NA**Surrogate*	71562	0.020
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
0	0.00	0.00	4-Am-2,6-DNT	0	0.000
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
6	27.10	-0.12	2-Nitrotoluene	46166	0.008
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	117727	0.028

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.87			42874	0.000
2	6.80			25859	0.000
4	9.07			138309	0.000
5	23.97			17903	0.000
			Totals	224944	0.000

File: 06219601.d01 Sample: IB



Lockheed Analytical Services

Data Reprocessed On 06/21/1996 10:08:23

Sample Name: AUTOCAL1R Date: 06/20/1996 21:01:24
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d02
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

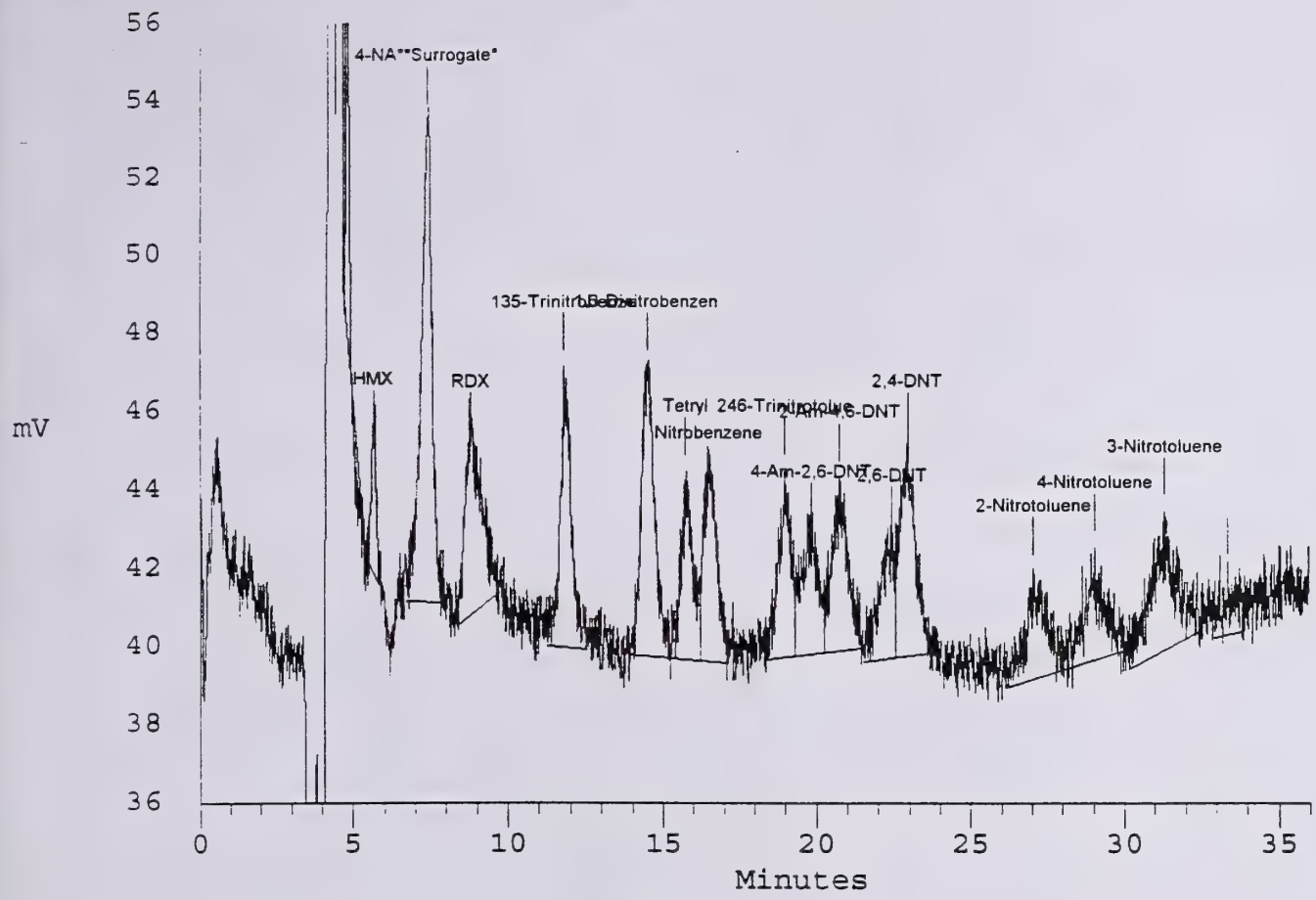
Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.67	0.65	HMX	43600	0.020
3	7.40	0.00	4-NA**Surrogate*	309387	0.080
4	8.80	1.15	RDX	185064	0.020
5	11.82	-0.08	135-Trinitrobenze	177516	0.020
6	14.50	0.00	1,3-Dinitrobenzen	233128	0.020
7	15.77	-0.02	Tetryl	118958	0.020
8	16.50	-0.18	Nitrobenzene	133829	0.020
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.01	0.05	246-Trinitrotolue	128101	0.020
10	19.87	0.34	4-Am-2,6-DNT	117849	0.020
11	20.77	0.00	2-Am-4,6-DNT	151932	0.020
12	22.47	0.88	2,6-DNT	104888	0.020
13	22.97	0.29	2,4-DNT	177779	0.020
14	27.07	-0.23	2-Nitrotoluene	130277	0.020
15	29.05	0.17	4-Nitrotoluene	112046	0.020
16	31.33	0.19	3-Nitrotoluene	191356	0.020
0	0.00	0.00	PETN	0	0.000
			Totals	2315708	0.360

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			44184	0.000
17	33.37			39142	0.000
			Totals	83326	0.000

000107

File: 06219601.d02 Sample: AUTOCAL1R



Lockheed Analytical Services

Data Reprocessed On 06/21/1996 10:51:43

Sample Name: 2r Date: 06/20/1996 21:39:37
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d03
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

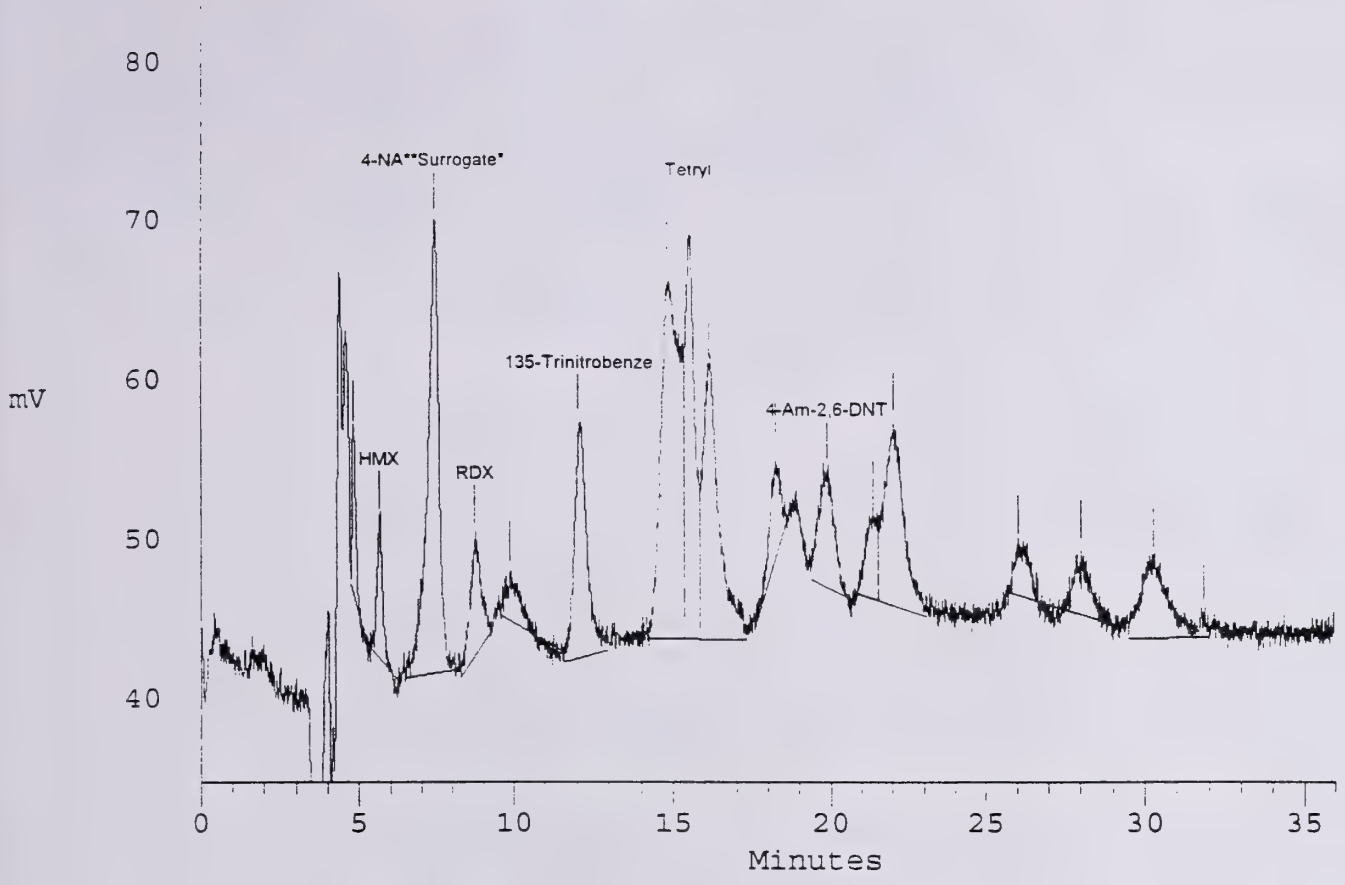
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.00	HMX	107527	0.036
3	7.40	0.00	4-NA**Surrogate*	726884	0.204
4	8.73	0.38	RDX	188032	0.045
6	12.07	1.97	135-Trinitrobenze	416226	0.046
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
8	15.53	-1.48	Tetryl	506669	0.079
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
11	19.90	0.51	4-Am-2,6-DNT	245560	0.041
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	2190899	0.451

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			80237	0.000
5	9.87			75543	0.000
7	14.87			937672	0.000
9	16.17			595735	0.000
10	18.27			154395	0.000
12	21.37			133660	0.000
13	22.03			479720	0.000
14	26.07			88281	0.000
15	28.03			119763	0.000
16	30.30			287819	0.000
17	31.87			20139	0.000
			Totals	2972965	0.000

File: 06219601.d03 Sample: 2r



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Data Reprocessed On 06/21/1996 10:08:26

Sample Name: AUTOCAL2R Date: 06/20/1996 22:17:50
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d04
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

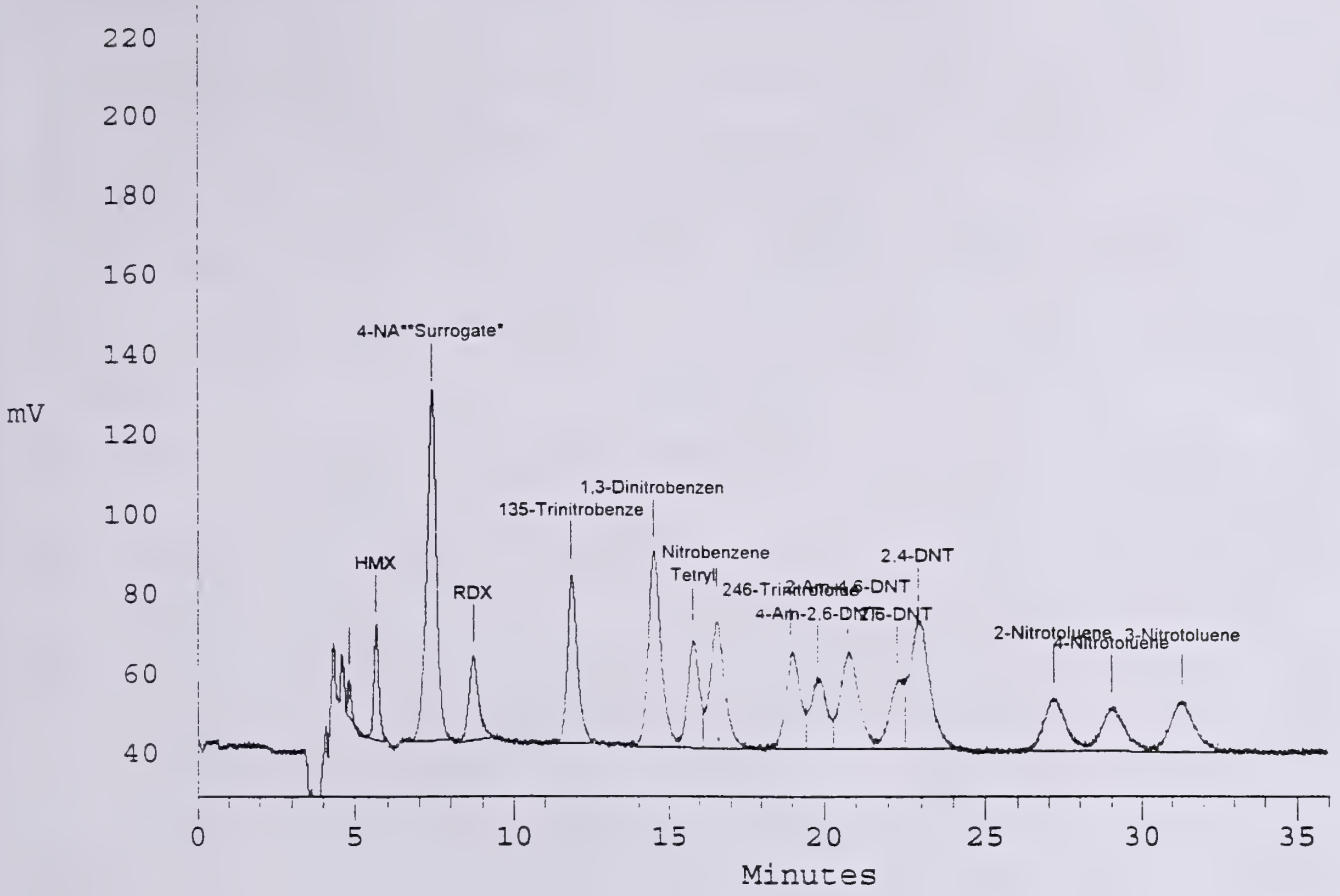
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	-0.59	HMX	315771	0.100
3	7.40	0.00	4-NA**Surrogate*	1901461	0.500
4	8.70	-1.14	RDX	463964	0.100
5	11.87	0.39	135-Trinitrobenze	956139	0.100
6	14.50	0.00	1,3-Dinitrobenzen	1447008	0.100
7	15.80	0.21	Tetryl	709103	0.100
8	16.57	0.40	Nitrobenzene	1063569	0.100
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.97	-0.23	246-Trinitrotolue	770693	0.100
10	19.80	-0.34	4-Am-2,6-DNT	605570	0.100
11	20.77	-0.02	2-Am-4,6-DNT	942115	0.100
12	22.27	-0.89	2,6-DNT	543642	0.100
13	22.93	-0.15	2,4-DNT	1321410	0.100
14	27.17	0.37	2-Nitrotoluene	617760	0.100
15	29.03	-0.06	4-Nitrotoluene	586353	0.100
16	31.33	0.01	3-Nitrotoluene	680383	0.100
0	0.00	0.00	PETN	0	0.000
			Totals	12924940	1.900

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			47889	0.000
			Totals	47889	0.000

File: 06219601.d04 Sample: AUTOCAL2R



Lockheed Analytical Services

Data Reprocessed On 06/21/1996 10:08:28

Sample Name: AUTOCAL3R Date: 06/20/1996 22:56:18
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d05
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

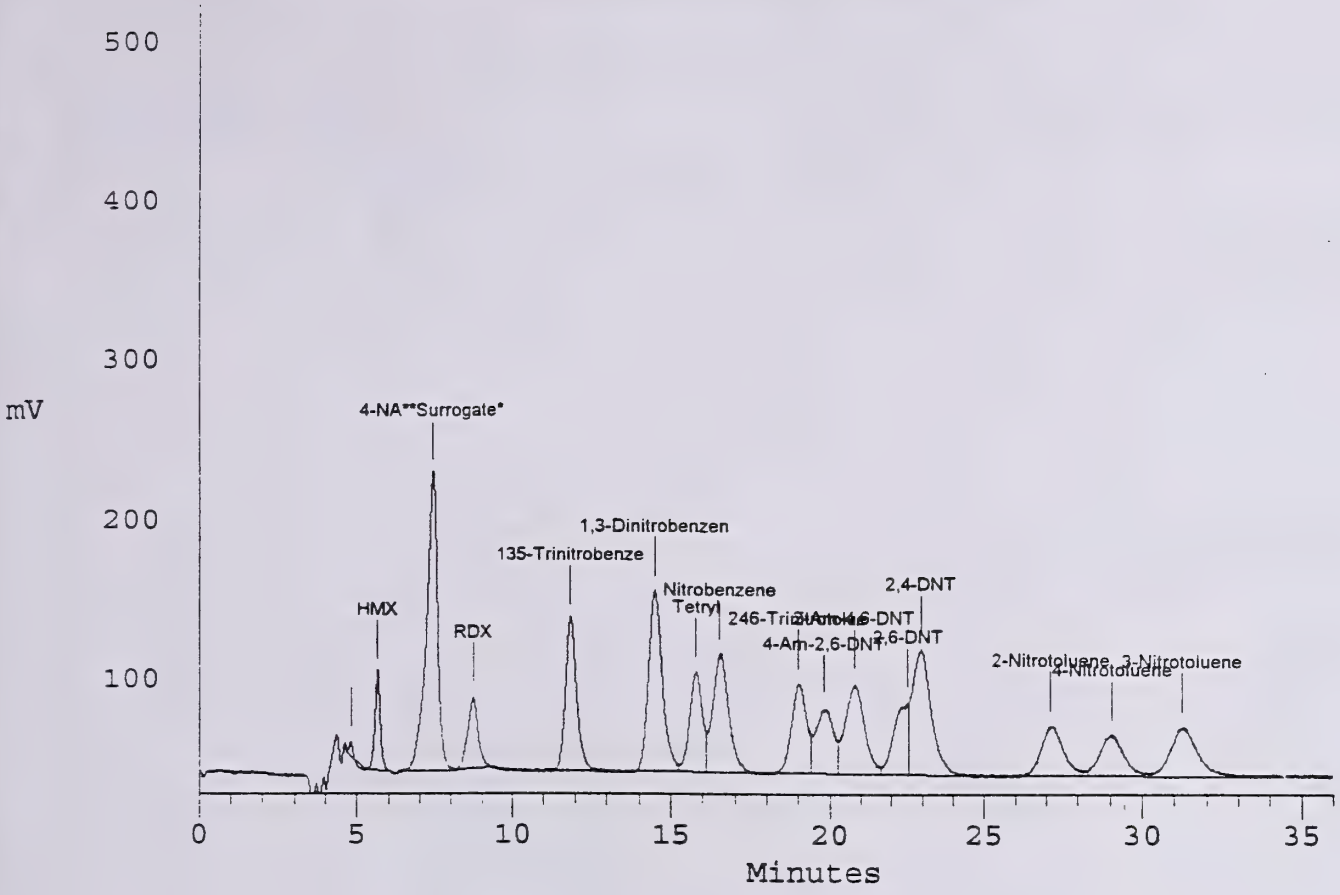
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.00	HMX	764876	0.250
3	7.40	0.00	4-NA**Surrogate*	4677978	1.260
4	8.70	0.00	RDX	1062954	0.250
5	11.83	-0.28	135-Trinitrobenze	2400605	0.250
6	14.50	0.00	1,3-Dinitrobenzen	3428090	0.250
7	15.80	0.00	Tetryl	1721365	0.250
8	16.53	-0.20	Nitrobenzene	2488763	0.250
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.00	0.18	246-Trinitrotolue	1840883	0.250
10	19.83	0.17	4-Am-2,6-DNT	1519150	0.250
11	20.80	0.16	2-Am-4,6-DNT	2424408	0.250
12	22.54	1.24	2,6-DNT	1432173	0.250
13	22.97	0.15	2,4-DNT	3421176	0.250
14	27.13	-0.12	2-Nitrotoluene	1571998	0.250
15	29.07	0.11	4-Nitrotoluene	1325280	0.250
16	31.23	-0.32	3-Nitrotoluene	1814228	0.250
0	0.00	0.00	PETN	0	0.000
			Totals	31893927	4.760

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			19390	0.000
			Totals	19390	0.000

File: 06219601.d05 Sample: AUTOCAL3R



Lockheed Analytical Services

Data Reprocessed On 06/21/1996 10:08:31

Sample Name: AUTOCAL4R Date: 06/20/1996 23:34:33
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d06
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

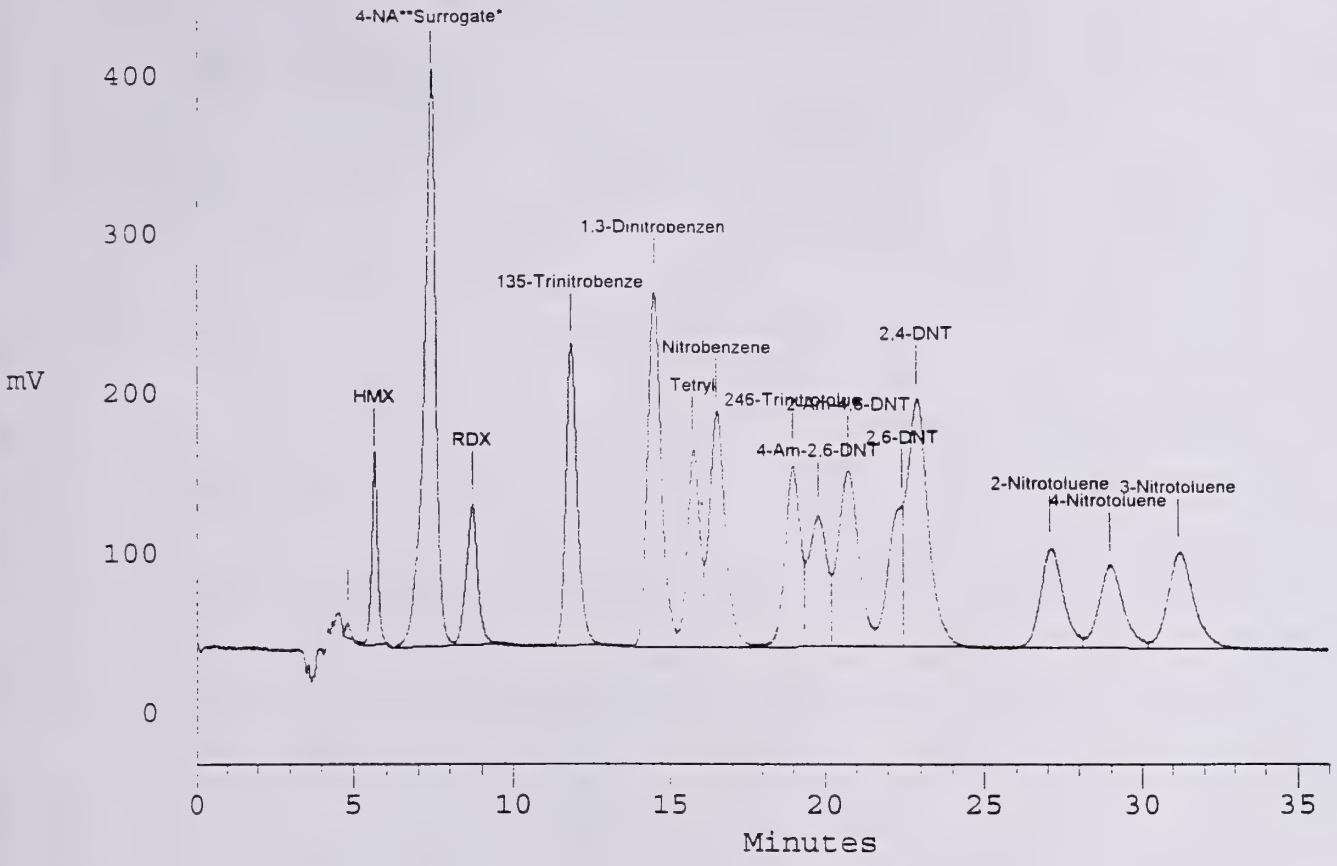
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.00	HMX	1540396	0.500
3	7.40	0.00	4-NA**Surrogate*	9390501	2.520
4	8.70	0.00	RDX	2203131	0.500
5	11.83	0.00	135-Trinitrobenze	4754469	0.500
6	14.50	0.00	1,3-Dinitrobenzen	6935352	0.500
7	15.77	-0.21	Tetryl	3433727	0.500
8	16.53	0.00	Nitrobenzene	5230948	0.500
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.00	0.00	246-Trinitrotolue	3803164	0.500
10	19.80	-0.17	4-Am-2,6-DNT	3238178	0.500
11	20.77	-0.16	2-Am-4,6-DNT	4872782	0.500
12	22.47	-0.34	2,6-DNT	2772141	0.500
13	22.90	-0.29	2,4-DNT	6985094	0.500
14	27.10	-0.12	2-Nitrotoluene	3054115	0.500
15	28.97	-0.34	4-Nitrotoluene	2738328	0.500
16	31.20	-0.11	3-Nitrotoluene	3455272	0.500
0	0.00	0.00	PETN	0	0.000
			Totals	64407597	9.520

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			79594	0.000
			Totals	79594	0.000

File: 06219601.d06 Sample: AUTOCAL4R



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Data Reprocessed On 06/21/1996 10:08:34

Sample Name: AUTOCAL5R Date: 06/21/1996 00:12:49
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d07
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

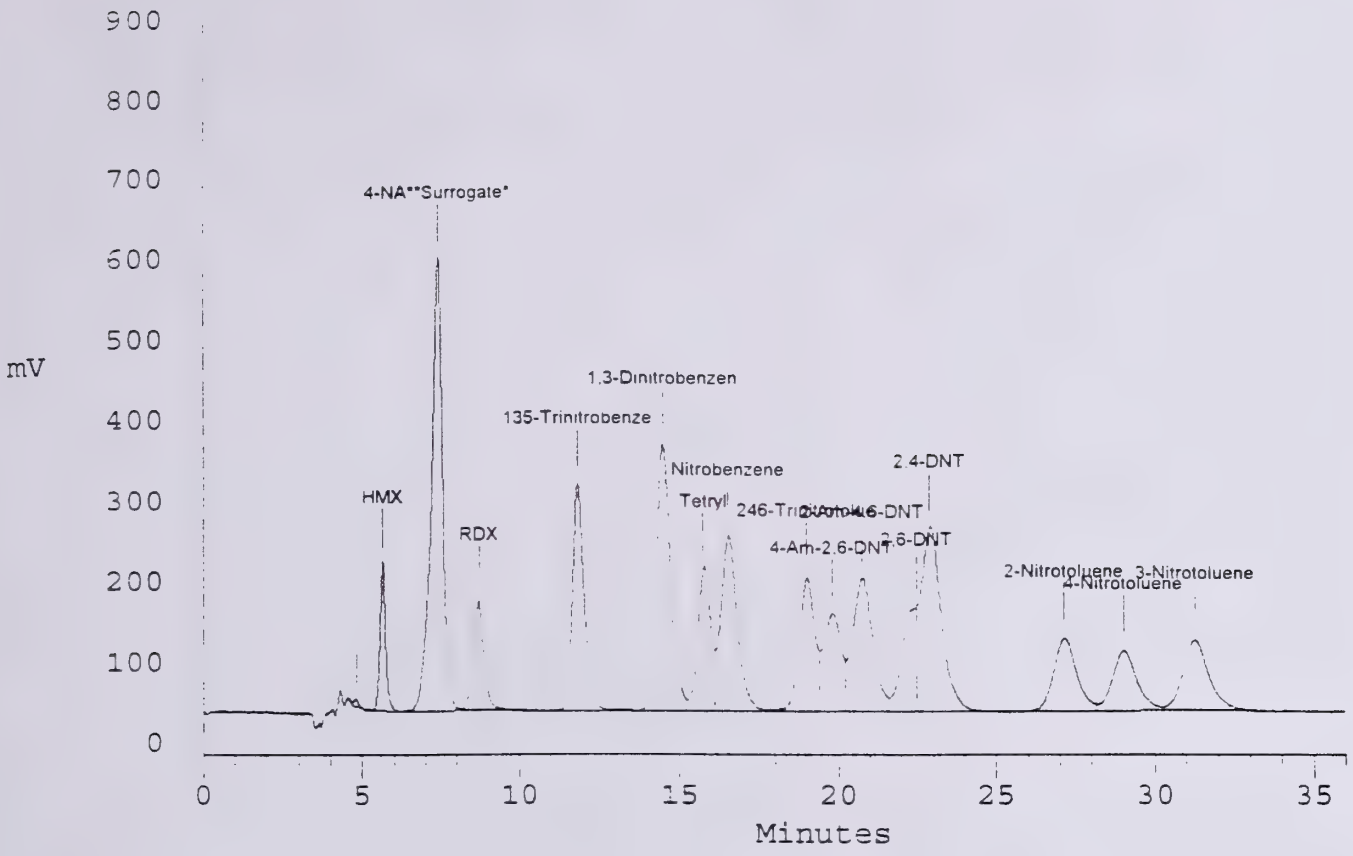
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.00	HMX	2314028	0.800
3	7.40	0.00	4-NA**Surrogate*	13914239	4.020
4	8.70	0.00	RDX	3248952	0.800
5	11.83	0.00	135-Trinitrobenze	7075557	0.800
6	14.50	0.00	1,3-Dinitrobenzen	10266858	0.800
7	15.77	0.00	Tetryl	4944507	0.800
8	16.53	0.00	Nitrobenzene	7749255	0.800
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.00	0.00	246-Trinitrotolue	5648321	0.800
10	19.80	0.00	4-Am-2,6-DNT	4603628	0.800
11	20.77	0.00	2-Am-4,6-DNT	7266231	0.800
2	22.49	0.09	2,6-DNT	4049288	0.800
13	22.90	0.00	2,4-DNT	10319936	0.800
14	27.13	0.12	2-Nitrotoluene	4567205	0.800
15	29.00	0.12	4-Nitrotoluene	4025453	0.800
16	31.27	0.21	3-Nitrotoluene	5006263	0.800
0	0.00	0.00	PETN	0	0.000
			Totals	94999722	15.220

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			74732	0.000
			Totals	74732	0.000

File: 06219601.d07 Sample: AUTOCAL5R



Lockheed Analytical Services

Data Reprocessed On 06/21/1996 10:51:47

Sample Name: IB Date: 06/21/1996 00:51:15
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d08
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

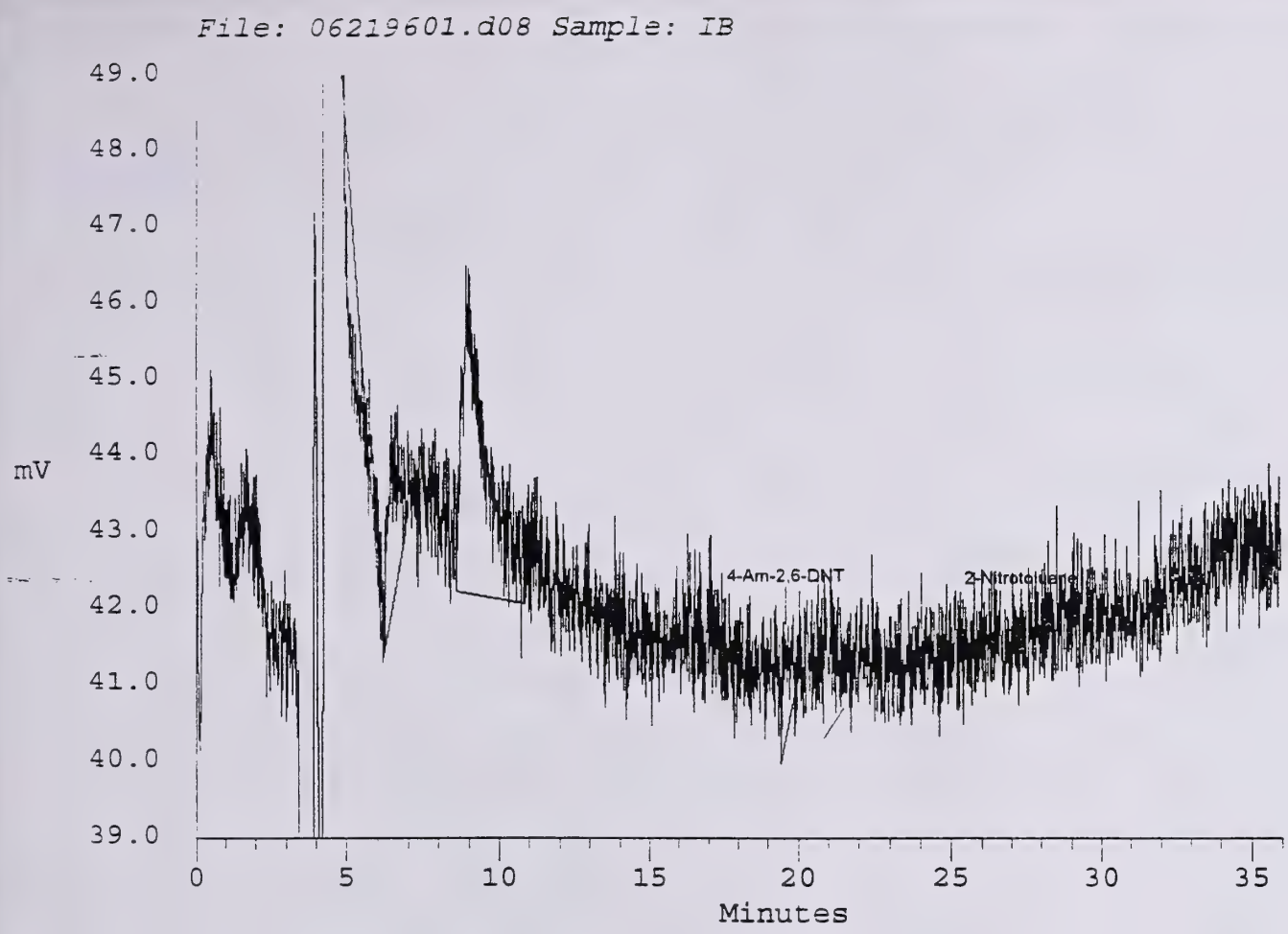
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
0	0.00	0.00	4-NA**Surrogate*	0	0.000
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
4	19.60	-1.01	4-Am-2,6-DNT	22552	0.004
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
6	27.33	0.74	2-Nitrotoluene	7823	0.001
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	30375	0.005

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.77			16876	0.000
2	6.67			54775	0.000
3	9.00			220888	0.000
5	21.10			40586	0.000
			Totals	333125	0.000


File: 06219601.d08 Sample: IB
49.0
48.0
47.0
46.0
45.0
44.0
43.0
42.0
41.0
40.0
39.0
mV
4-Am-2,6-DNT
0
5
10
15
20
25
30
35
Minutes

Zep

Lockheed Analytical Services

6/21/96

Data Reprocessed On 06/21/1996 11:56:22

Sample Name: CCV3 Date: 06/21/1996 08:30:45
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d20
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 20 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

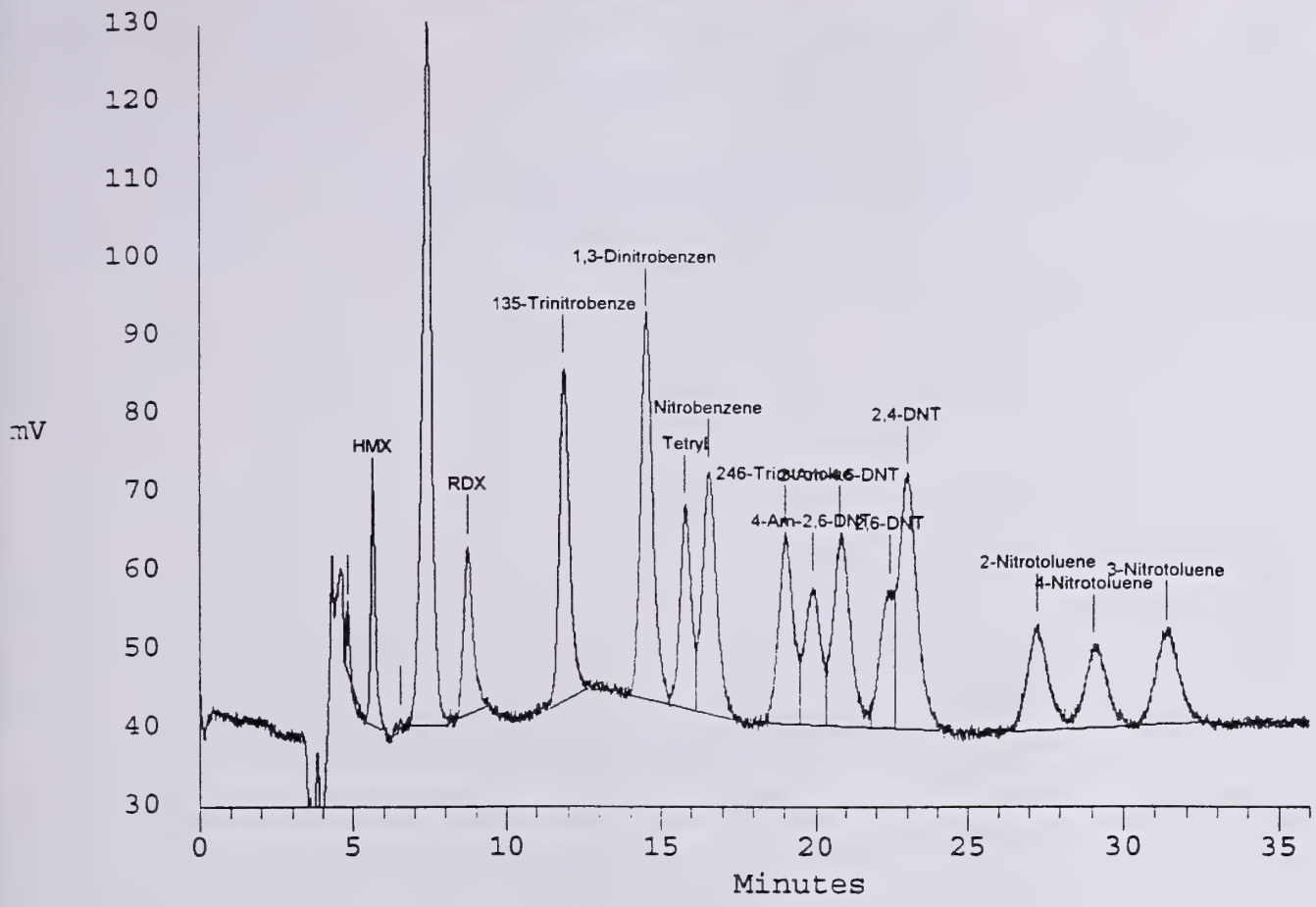
Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.00	HMX	337514	0.114
4	7.40	0.00	4-NA**Surrogate*	1924062	0.541
5	8.70	0.00	RDX	467385	0.112
6	11.87	0.28	135-Trinitrobenze	978550	0.108
7	14.50	0.00	1,3-Dinitrobenzen	1369822	0.104
8	15.80	0.21	Tetryl	648563	0.101
9	16.57	0.20	Nitrobenzene	978656	0.099
0	0.00	0.00	Nitroglycerin	0	0.000
10	19.03	0.18	246-Trinitrotolue	774563	0.107
11	19.90	0.51	4-Am-2,6-DNT	621236	0.104
2	20.80	0.16	2-Am-4,6-DNT	974324	0.105
3	22.44	-0.19	2,6-DNT	559287	0.107
14	23.00	0.44	2,4-DNT	1335116	0.101
15	27.27	0.49	2-Nitrotoluene	608442	0.104
16	29.07	0.23	4-Nitrotoluene	508737	0.098
17	31.37	0.32	3-Nitrotoluene	609220	0.093
0	0.00	0.00	PETN	0	0.000
			Totals	12695475	1.997

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			30366	0.000
3	6.53			13185	0.000
			Totals	43552	0.000

000121

File: 06219601.d20 Sample: CCV3



Lockheed Analytical Services

Data Reprocessed On 06/24/1996 10:20:36

6/24/96

Sample Name: CCV3 Date: 06/21/1996 14:53:28
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d30
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 30 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

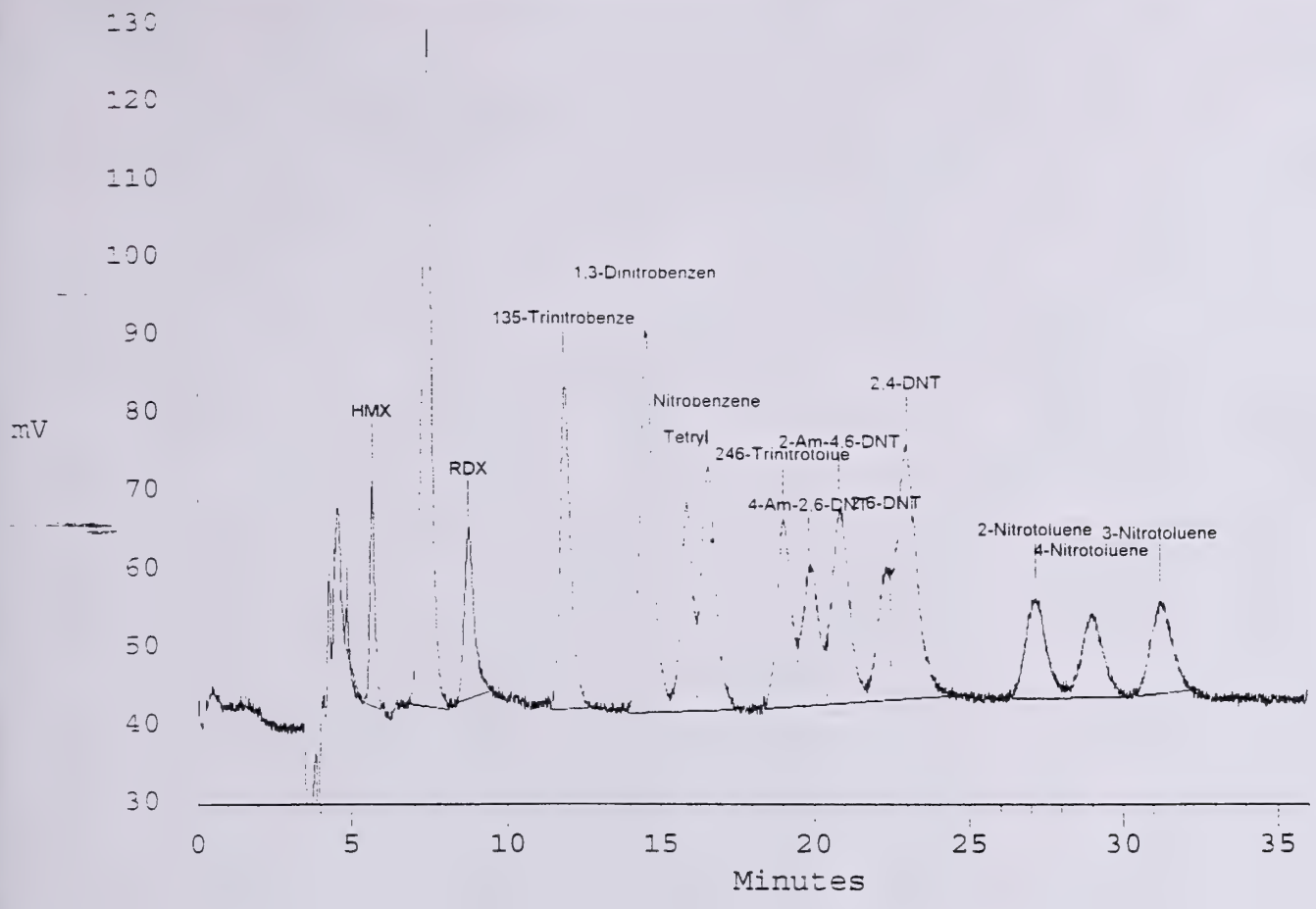
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.67	0.59	HMX	326347	0.110
3	7.43	0.45	4-NA**Surrogate*	1900353	0.535
4	8.73	0.38	RDX	491663	0.118 OUT
5	11.87	0.28	135-Trinitrobenze	990321	0.109
6	14.53	0.23	1,3-Dinitrobenzen	1452064	0.110
7	15.87	0.63	Tetryl	709416	0.110
8	16.57	0.20	Nitrobenzene	1003167	0.101
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.03	0.18	246-Trinitrotolue	775102	0.107
10	19.87	0.34	4-Am-2,6-DNT	661240	0.111
1	20.87	0.48	2-Am-4,6-DNT	937218	0.101
12	22.37	-0.53	2,6-DNT	466853	0.089
13	23.00	0.44	2,4-DNT	1422935	0.107
14	27.17	0.12	2-Nitrotoluene	622860	0.106
15	29.00	0.00	4-Nitrotoluene	515785	0.100
16	31.23	-0.11	3-Nitrotoluene	562584	0.086
0	0.00	0.00	PETN	0	0.000
			Totals	12837907	2.000

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.87			8968	0.000
			Totals	8968	0.000

File: 06219601.d30 Sample: CCV3



LOCKHEED ANALYTICAL SERVICES
INITIAL CALIBRATION RETENTION TIME SUMMARY

Method file ID: e:\DX\METHOD\HPLCA\8330\062196.MET
Analytical Batch ID: 062196-8330-HPLCA-2
Instrument ID.: HPLC-A
Column ID: ULTRACARB

STANDARD ID	AUTOCAL1R	AUTOCAL2R	AUTOCAL3R	AUTOCAL4R	AUTOCAL5R		
	20-Jun-96	20-Jun-96	20-Jun-96	20-Jun-96	21-Jun-96		
COMPOUND	21:01:24	22:17:50	22:56:18	23:34:33	00:12:49	AVG	RSD
HMX	5.67	5.63	5.63	5.63	5.63	5.64	0.3%
4-NA**Surrogate*	7.40	7.40	7.40	7.40	7.40	7.40	0.0%
RDX	8.80	8.70	8.70	8.70	8.70	8.72	0.5%
135-Trinitrobenze	11.82	11.87	11.83	11.83	11.83	11.84	0.2%
1,3-Dinitrobenzen	14.50	14.50	14.50	14.50	14.50	14.50	0.0%
Tetryl	15.77	15.80	15.80	15.77	15.77	15.78	0.1%
Nitrobenzene	16.50	16.57	16.53	16.53	16.53	16.53	0.2%
Nitroglycerin	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
246-Trinitrotolue	19.01	18.97	19.00	19.00	19.00	19.00	0.1%
4-Am-2,6-DNT	19.87	19.80	19.83	19.80	19.80	19.82	0.2%
2-Am-4,6-DNT	20.77	20.77	20.80	20.77	20.77	20.78	0.1%
2,6-DNT	22.47	22.27	22.54	22.47	22.49	22.45	0.5%
2,4-DNT	22.97	22.93	22.97	22.90	22.90	22.93	0.2%
2-Nitrotoluene	27.07	27.17	27.13	27.10	27.13	27.12	0.1%
4-Nitrotoluene	29.05	29.03	29.07	28.97	29.00	29.02	0.1%
3-Nitrotoluene	31.33	31.33	31.23	31.20	31.27	31.27	0.2%
PETN	0.00	0.00	0.00	0.00	0.00	0.00	0.0%

LOCKHEED ANALYTICAL SERVICES
INITIAL CALIBRATION AREA SUMMARY

Method file ID: e:\DX\METHOD\HPLCA\8330\062196.MET
Analytical Batch ID: 062196-8330-HPLCA-2
Instrument ID: HPLC-A
Column ID. ULTRACARB

STANDARD ID	AUTOCAL1R	AUTOCAL2R	AUTOCAL3R	AUTOCAL4R	AUTOCAL5R
	20-Jun-96	20-Jun-96	20-Jun-96	20-Jun-96	21-Jun-96
COMPOUND	21:01:24	22:17:50	22:56:18	23:34:33	00:12:49
HMX	43600	315771	764876	1540396	2314028
4-NA""Surrogate"	309387	1901461	4677978	9390501	13914239
RDX	185064	463964	1062954	2203131	3248952
135-Trinitrobenze	177516	956139	2400605	4754469	7075557
1,3-Dinitrobenzen	233128	1446996	3428090	6935352	10266858
Tetryl	118958	709097	1721365	3433727	4944507
Nitrobenzene	133829	1063569	2488763	5230948	7749255
Nitroglycerin	0	0	0	0	0
246-Trinitrotolue	128101	770693	1840883	3803164	5648321
4-Am-2,6-DNT	117849	605570	1519136	3237964	4603628
2-Am-4,6-DNT	151932	942115	2424382	4872787	7266232
2,6-DNT	104887	543642	1432155	2772141	4041778
2,4-DNT	177781	1321410	3421176	6985094	10319940
2-Nitrotoluene	130277	617760	1571998	3054115	4567203
4-Nitrotoluene	112046	586353	1325280	2738322	4025458
3-Nitrotoluene	191356	680383	1814228	3455260	5006263
PETN	0	0	0	0	0

LOCKHEED ANALYTICAL SERVICES
INITIAL CALIBRATION CURVE SUMMARY

Method file ID: e:\DX\METHOD\HPLCA\8330\062196 MET

Analytical Batch ID: 062196-8330-HPLCA-2

Instrument ID: HPLC-A Calibration Type: Linear, Forced

Column ID: ULTRACARB

COMPOUND	QUADRATIC COEFFICIENT	LINEAR COEFFICIENT	CONSTANT	R SQUARED
HMX		3.381E-07	0.0000	0.9978
4-NA**Surrogate*		2.813E-07	0.0000	0.9971
RDX		2.392E-07	0.0000	0.9951
135-Trinitrobenze		1.101E-07	0.0000	0.9970
1,3-Dinitrobenzen		7.579E-08	0.0000	0.9967
Tetryl		1.555E-07	0.0000	0.9937
Nitrobenzene		1.007E-07	0.0000	0.9970
Nitroglycerin		1.007E-07	0.0000	0.9970
246-Trinitrotolue		1.382E-07	0.0000	0.9973
4-Am-2,6-DNT		1.672E-07	0.0000	0.9935
2-Am-4,6-DNT		1.074E-07	0.0000	0.9974
2,6-DNT		1.908E-07	0.0000	0.9945
2,4-DNT		7.548E-08	0.0000	0.9968
2-Nitrotoluene		1.706E-07	0.0000	0.9969
4-Nitrotoluene		1.930E-07	0.0000	0.9962
3-Nitrotoluene		1.534E-07	0.0000	0.9930
PETN		1.534E-07	0.0000	0.9930

INITIAL CALIBRATION CONCENTRATIONS

Method file ID: e:\DX\METHOD\HPLCA\8330\062196 MET

Analytical Batch ID: 062196-8330-HPLCA-2 Units: UG/ML

Instrument ID: HPLC-A

Column ID: ULTRACARB

STANDARD ID	AUTOCAL1R	AUTOCAL2R	AUTOCAL3R	AUTOCAL4R	AUTOCAL5R
	20-Jun-96	20-Jun-96	20-Jun-96	20-Jun-96	21-Jun-96
COMPOUND	21:01:24	22:17:50	22:56:18	23:34:33	00:12:49
HMX	0.02	0.1	0.25	0.5	0.8
4-NA**Surrogate*	0.08	0.5	1.26	2.52	4.02
RDX	0.02	0.1	0.25	0.5	0.8
135-Trinitrobenze	0.02	0.1	0.25	0.5	0.8
1,3-Dinitrobenzen	0.02	0.1	0.25	0.5	0.8
Tetryl	0.02	0.1	0.25	0.5	0.8
Nitrobenzene	0.02	0.1	0.25	0.5	0.8
Nitroglycerin	0	0	0	0	0
246-Trinitrotolue	0.02	0.1	0.25	0.5	0.8
4-Am-2,6-DNT	0.02	0.1	0.25	0.5	0.8
2-Am-4,6-DNT	0.02	0.1	0.25	0.5	0.8
2,6-DNT	0.02	0.1	0.25	0.5	0.8
2,4-DNT	0.02	0.1	0.25	0.5	0.8
2-Nitrotoluene	0.02	0.1	0.25	0.5	0.8
4-Nitrotoluene	0.02	0.1	0.25	0.5	0.8
3-Nitrotoluene	0.02	0.1	0.25	0.5	0.8
PETN	0	0	0	0	0

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
TRUE VS. MEASURED VALUES

Method file ID: e:\DX\METHOD\HPLCA\8330\062196.MET

Analytical Batch ID: 062196-8330-HPLCA-2

Instrument ID: HPLC-A Units: UG/ML

Column ID: ULTRACARB

		STD ID	DATE	TIME	
	TRUE	CCV2	06/21/96	08:30:45	
COMPOUND	VALUE		MEASURED VALUE		%D
HMX	0.100		0.114		14.1%
4-NA""Surrogate"	0.500		0.541		8.3%
RDX	0.100		0.112		11.8%
135-Trinitrobenze	0.100		0.108		7.7%
1,3-Dinitrobenzen	0.100		0.104		3.8%
Tetryl	0.100		0.101		0.8%
Nitrobenzene	0.100		0.099		-1.4%
Nitroglycerin	0.000		0.000		
246-Trinitrotolue	0.100		0.107		7.0%
4-Am-2,6-DNT	0.100		0.104		3.8%
2-Am-4,6-DNT	0.100		0.105		4.7%
2,6-DNT	0.100		0.107		6.6%
2,4-DNT	0.100		0.101		0.8%
2-Nitrotoluene	0.100		0.104		3.8%
4-Nitrotoluene	0.100		0.098		-1.8%
3-Nitrotoluene	0.100		0.093		-6.5%
PETN	0.000		0.000		

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
RETENTION TIME STABILITY

Method file ID: e:\DX\METHOD\HPLCA\8330\062196 MET
Analytical Batch ID: 062196-8330-HPLCA-2
Instrument ID: HPLC-A
Column ID: ULTRACARB

	INITIAL	STD ID	DATE	TIME	
	CALIBRATION	CCV2	21-Jun-96	08:30:45	
COMPOUND	AVERAGE RT		ACTUAL RT		%D
HMX	5.64		5.63		-0.14%
4-NA**Surrogate*	7.40		7.40		0.00%
RDX	8.72		8.70		-0.23%
135-Trinitrobenze	11.84		11.87		0.29%
1,3-Dinitrobenzen	14.50		14.50		0.00%
Tetryl	15.78		15.80		0.11%
Nitrobenzene	16.53		16.57		0.23%
Nitroglycerin	0.00		0.00		
246-Trinitrotolue	19.00		19.03		0.18%
4-Am-2,6-DNT	19.82		19.90		0.40%
2-Am-4,6-DNT	20.78		20.80		0.12%
2,6-DNT	22.45		22.44		-0.04%
2,4-DNT	22.93		23.00		0.29%
2-Nitrotoluene	27.12		27.27		0.55%
4-Nitrotoluene	29.02		29.07		0.16%
3-Nitrotoluene	31.27		31.37		0.31%
PETN	0.00		0.00		

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
TRUE VS. MEASURED VALUES

Method file ID: e:\DX\METHOD\HPLCA\8330\062196 MET

Analytical Batch ID: 062196-8330-HPLCA-2

Instrument ID: HPLC-A Units: UG/ML

Column ID: ULTRACARB

		STD ID	DATE	TIME	
	TRUE	CCV2	06/21/96	14:53:28	
COMPOUND	VALUE		MEASURED VALUE		%D
HMX	0.100		0.110		10.3%
4-NA**Surrogate*	0 500		0.535		6.9%
RDX	0.100		0.118		17.6%
135-Trinitrobenze	0.100		0 109		9.0%
1,3-Dinitrobenzen	0.100		0.110		10.0%
Tetryl	0.100		0.110		10.3%
Nitrobenzene	0.100		0.101		1.1%
Nitroglycerin	0.000		0 000		
246-Trinitrotolue	0 100		0 107		7.1%
4-Am-2,6-DNT	0.100		0.111		10.5%
2-Am-4,6-DNT	0.100		0.101		0.7%
2,6-DNT	0.100		0.089		-11.0%
2,4-DNT	0.100		0.107		7.4%
2-Nitrotoluene	0.100		0.106		6.2%
4-Nitrotoluene	0.100		0.100		-0.5%
3-Nitrotoluene	0.100		0.086		-13.7%
PETN	0.000		0.000		

LOCKHEED ANALYTICAL SERVICES
CONTINUING CALIBRATION RESULTS
RETENTION TIME STABILITY

Method file ID: e:\DX\METHOD\HPLCA\8330\062196.MET

Analytical Batch ID: 062196-8330-HPLCA-2

Instrument ID: HPLC-A

Column ID: ULTRACARB

	INITIAL	STD ID	DATE	TIME	
	CALIBRATION	CCV2	21-Jun-96	14:53:28	
COMPOUND	AVERAGE RT		ACTUAL RT		%D
HMX	5.64		5.67		0.57%
4-NA**Surrogate*	7.40		7.43		0.41%
RDX	8.72		8.73		0.11%
135-Trinitrobenze	11.84		11.87		0.29%
1,3-Dinitrobenzen	14.50		14.53		0.21%
Tetryl	15.78		15.87		0.56%
Nitrobenzene	16.53		16.57		0.23%
Nitroglycerin	0.00		0.00		
246-Trinitrotolue	19.00		19.03		0.18%
4-Am-2,6-DNT	19.82		19.87		0.25%
2-Am-4,6-DNT	20.78		20.87		0.45%
2,6-DNT	22.45		22.37		-0.35%
2,4-DNT	22.93		23.00		0.29%
2-Nitrotoluene	27.12		27.17		0.18%
4-Nitrotoluene	29.02		29.00		-0.08%
3-Nitrotoluene	31.27		31.23		-0.13%
PETN	0.00		0.00		

LOCKHEED ANALYTICAL SERVICES
SURROGATE RETENTION TIME SUMMARY

Method file ID: e.\DX\METHOD\HPLCA\8330\062196 MET

Analytical Batch ID: 062196-8330-HPLCA-2

Instrument ID: HPLC-A

Column ID: ULTRACARB

SAMPLE ID	Injection Date	Time	RT 4-NA" "Surrogate"	%D
AUTOCAL1R	20-Jun-96	21:01	7.40	0.00%
AUTOCAL2R	20-Jun-96	22:17	7.40	0.00%
AUTOCAL3R	20-Jun-96	22:56	7.40	0.00%
AUTOCAL4R	20-Jun-96	23:34	7.40	0.00%
AUTOCAL5R	21-Jun-96	00:12	7.40	0.00%
CCV2	21-Jun-96	08:30	7.40	0.00%
38230MB	21-Jun-96	09:09	7.50	-1.35%
38230LCS	21-Jun-96	09:47	7.50	-1.35%
38230LCSDUP	21-Jun-96	10:25	7.50	-1.35%
L7219-2	21-Jun-96	11:03	0.00	100.00%
L7186-10	21-Jun-96	11:42	7.47	-0.95%
L7186-11	21-Jun-96	12:20	7.53	-1.76%
L7181-23	21-Jun-96	12:58	7.50	-1.35%
L7181-22	21-Jun-96	13:36	7.50	-1.35%
CCV2	21-Jun-96	14:53	7.43	-0.41%

QC DATA

Lockheed Analytical Services

Data Reprocessed On 06/19/1996 13:27:05

Sample Name: 38019MB Date: 06/18/1996 08:12:36
Data File : E:\DX\DATA\HPLCA\8330\061696\06169601.d67
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 67 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

********** Component Report: All Components **********

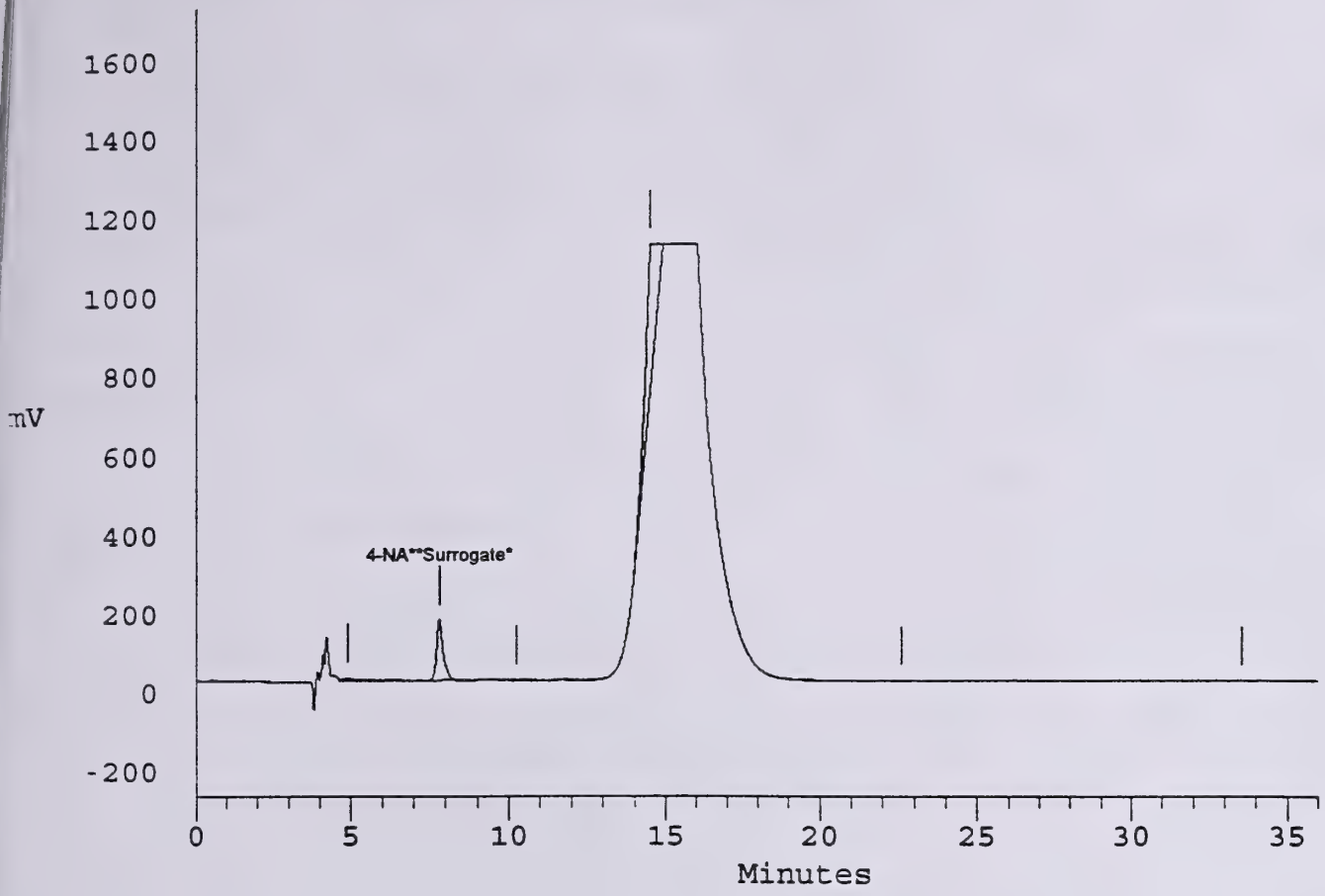
Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
2	7.80	2.18	4-NA**Surrogate*	2126242	7.433
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
0	0.00	0.00	4-Am-2,6-DNT	0	0.000
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	2126242	7.433

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.90			234604	0.000
3	10.23			55480	0.000
4	14.53			8588910	0.000
5	22.60			28331	0.000
6	33.53			25842	0.000
			Totals	8933167	0.000

000134

File: 06169601.d67 Sample: 38019MB



Lockheed Analytical Services

Data Reprocessed On 06/24/1996 10:2[illegible]:06

6/24/96

ample Name: 38230MB Date: 06/21/1996 09:09:07
ta File : E:\DX\DATA\HPLCA\8330\062196\06219601.d21
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 21 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

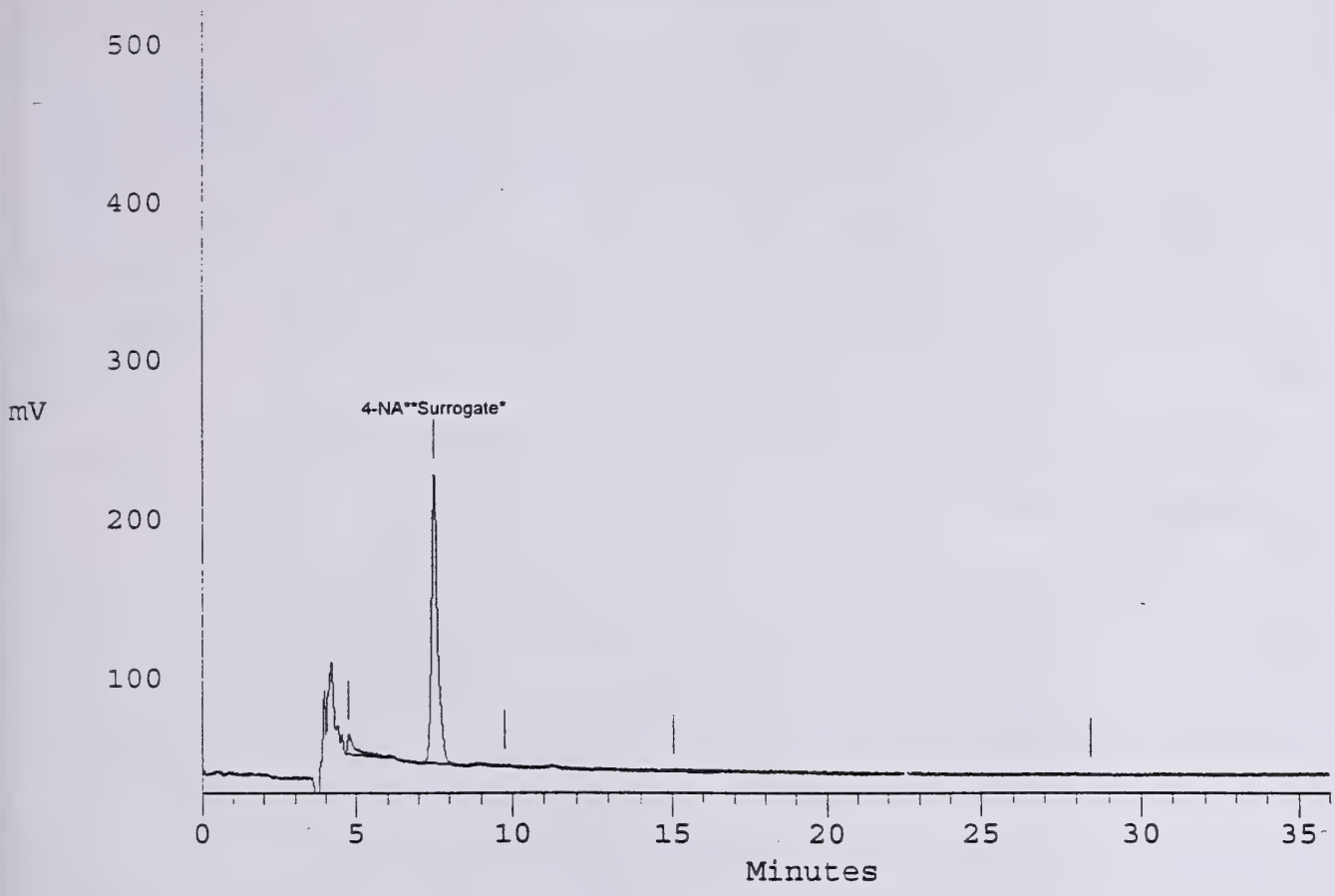
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
2	7.50	1.35	4-NA**Surrogate*	2476007	8.707
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
0	0.00	0.00	4-Am-2,6-DNT	0	0.000
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	2476007	8.707

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.73			226673	0.000
3	9.73			24044	0.000
4	15.07			104641	0.000
5	28.43			24015	0.000
			Totals	379374	0.000

File: 06219601.d21 Sample: 38230MB



(4)

Lockheed Analytical Services

6/19/94

Data Reprocessed On 06/19/1996 13:27:08

Sample Name: 38019LCS Date: 06/18/1996 08:50:53
Data File : E:\DX\DATA\HPLCA\8330\061696\06169601.d68
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 68 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

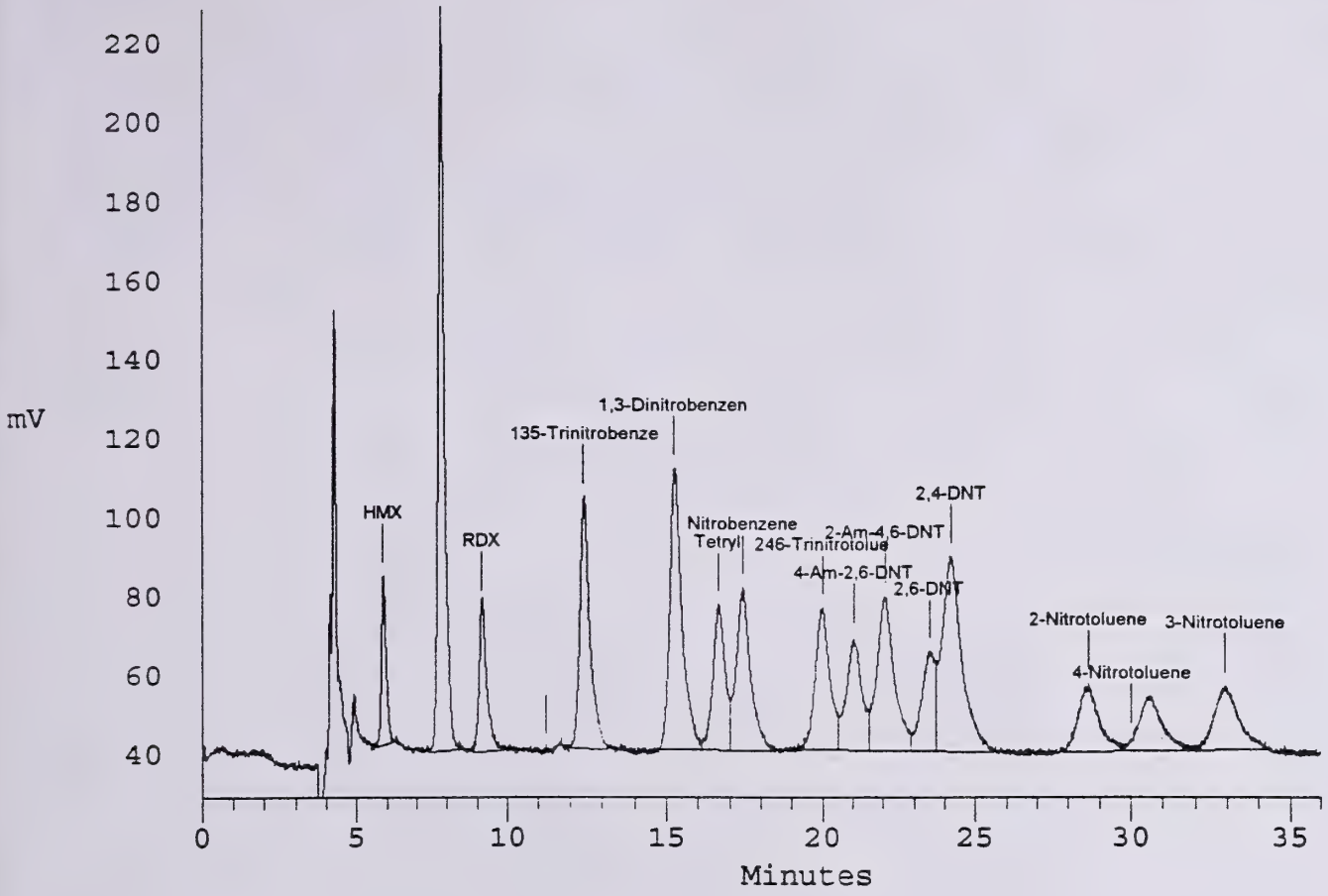
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	5.87	0.57	HMX	454768	1.837
2	7.77	1.75	4-NA**Surrogate*	2569027	8.981
3	9.13	1.48	RDX	683881	2.062
5	12.43	1.63	135-Trinitrobenze	1405546	1.917
6	15.27	1.55	1,3-Dinitrobenzen	1913080	1.764
7	16.63	1.42	Tetryl	962999	1.723
8	17.43	0.89	Nitrobenzene	1306088	1.637
0	0.00	0.00	Nitroglycerin	0	0.000
9	20.00	0.70	246-Trinitrotolue	1179973	1.954
10	21.03	0.88	4-Am-2,6-DNT	986486	2.049
11	22.07	1.13	2-Am-4,6-DNT	1527490	2.035
12	23.50	1.15	2,6-DNT	778881	1.814
13	24.20	1.54	2,4-DNT	2168630	2.050
14	28.63	0.75	2-Nitrotoluene	757391	1.553
15	30.01	-0.55	4-Nitrotoluene	686775	1.606
16	32.93	0.50	3-Nitrotoluene	850461	1.609
0	0.00	0.00	PETN	0	0.000
			Totals	18231475	34.590

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

File: 06169601.d68 Sample: 38019LCS



Lockheed Analytical Services

Data Reprocessed On 06/24/1996 10:20:09

6/24/96

Sample Name: 38230LCS Date: 06/21/1996 09:47:22
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d22
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 22 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

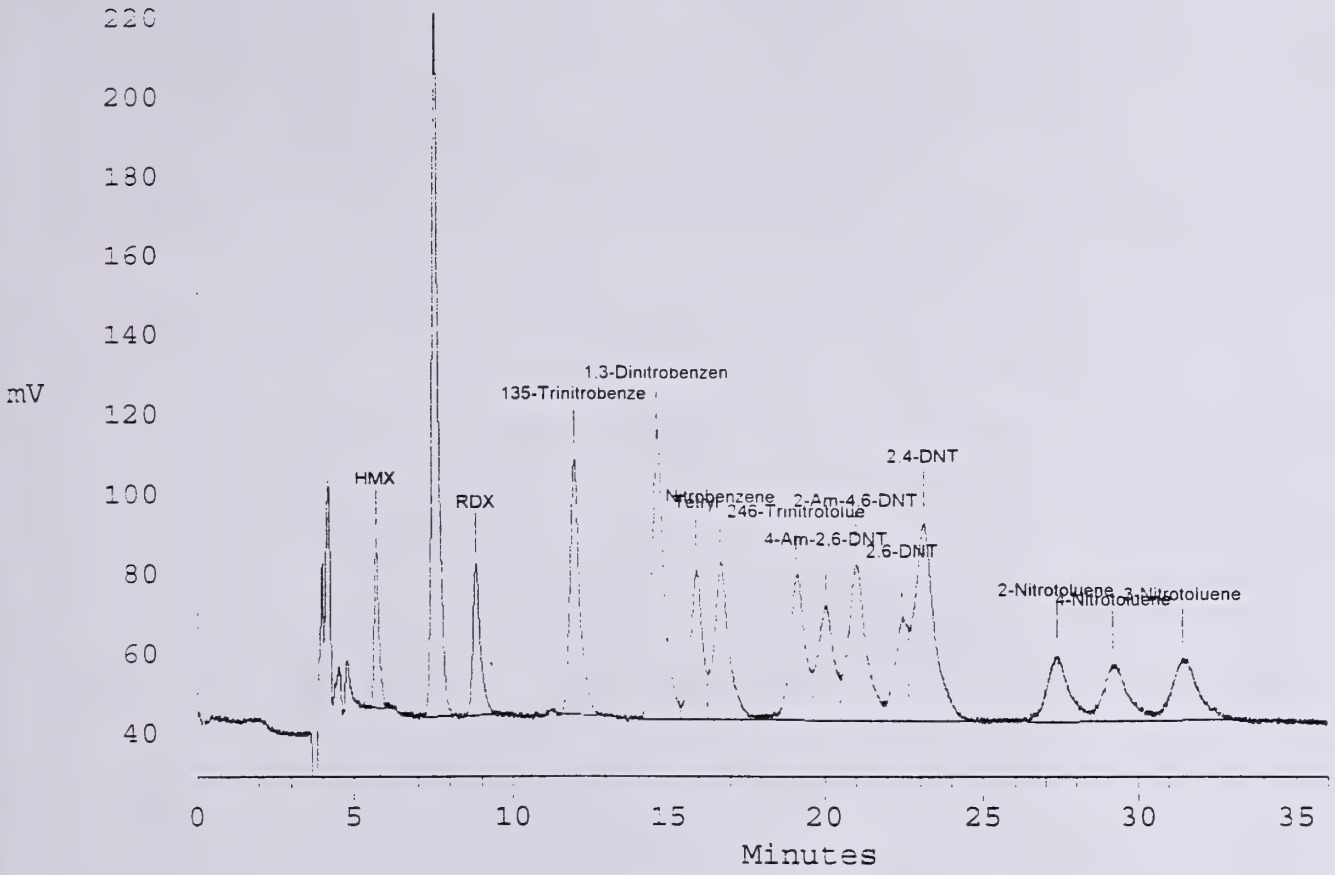
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
(1)	5.67	0.59	HMX	441652	1.867
2	7.50	1.35	4-NA**Surrogate*	2465295	8.669
(3)	8.80	1.15	RDX	639393	1.912
(4)	11.97	1.13	135-Trinitrobenze	1378316	1.896
(5)	14.63	0.92	1,3-Dinitrobenzen	1906947	1.807
(6)	15.93	1.06	Tetryl	953311	1.853
(7)	16.70	1.01	Nitrobenzene	1265137	1.593
0	0.00	0.00	Nitroglycerin	0	0.000
(8)	19.13	0.70	246-Trinitrotolue	1196143	2.066
(9)	20.07	1.35	4-Am-2,6-DNT	978694	2.045
(10)	21.00	1.12	2-Am-4,6-DNT	1484858	1.994
(11)	22.47	-0.09	2,6-DNT	732192	1.745
(12)	23.13	1.02	2,4-DNT	2093360	1.975
(13)	27.36	0.84	2-Nitrotoluene	812513	1.732
(14)	29.20	0.69	4-Nitrotoluene	776377	1.873
(15)	31.43	0.53	3-Nitrotoluene	873845	1.676
0	0.00	0.00	PETN	0	0.000
			Totals	17998031	34.702

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
			Totals	0	0.000

File: 06219601.d22 Sample: 38230ICS



Lockheed Analytical Services

DK 6/19/96

Data Reprocessed On 06/19/1996 13:27:11

Sample Name: 38019LCSDUP Date: 06/18/1996 09:29:09
Data File : E:\DX\DATA\HPLCA\8330\061696\06169601.d69
Method : E:\DX\METHOD\HPLCA\8330\061696.MET
ACI Address: 1 System: 1 Inject#: 69 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

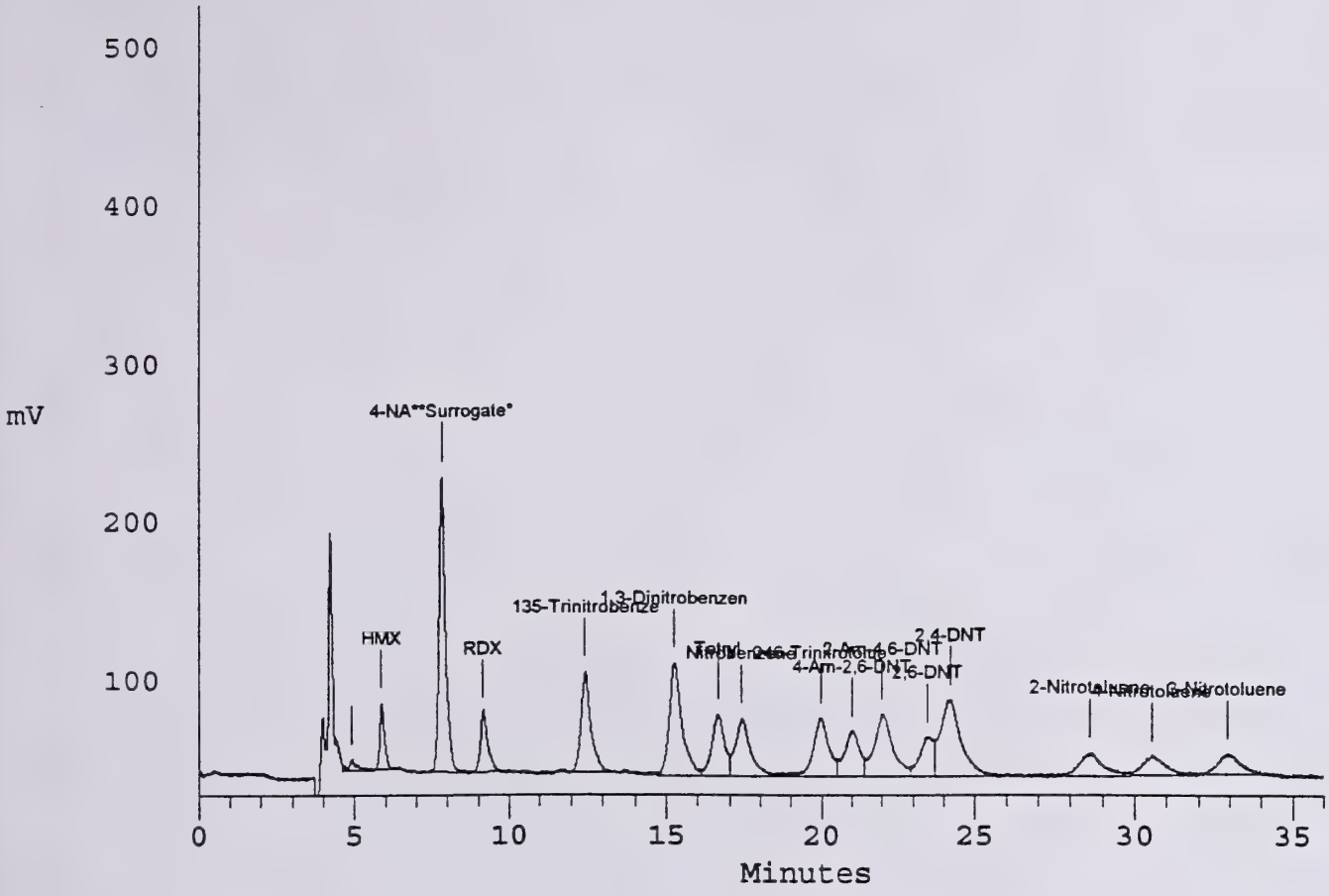
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.87	0.57	HMX	444016	1.794
3	7.80	2.18	4-NA**Surrogate*	2661749	9.305
4	9.13	1.48	RDX	627955	1.894
5	12.43	1.63	135-Trinitrobenze	1358824	1.853
6	15.27	1.55	1,3-Dinitrobenzen	1991848	1.837
7	16.63	1.42	Tetryl	1032101	1.846
8	17.40	0.69	Nitrobenzene	1204220	1.509
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.97	1.35	246-Trinitrotolue	1241993	2.057
10	21.00	1.35	4-Am-2,6-DNT	964478	2.003
11	22.00	1.15	2-Am-4,6-DNT	1634196	2.177
12	23.47	1.00	2,6-DNT	748895	1.744
13	24.20	1.54	2,4-DNT	2191251	2.072
14	28.60	1.02	2-Nitrotoluene	683887	1.402
15	30.53	0.50	4-Nitrotoluene	617511	1.444
16	32.90	-0.12	3-Nitrotoluene	626080	1.184
0	0.00	0.00	PETN	0	0.000
			Totals	18029006	34.120

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.90			121351	0.000
			Totals	121351	0.000

File: 06169601.d69 Sample: 38019LCSDUP



Lockheed Analytical Services

Data Reprocessed On 06/24/1996 10:20:12

Sample Name: 38230LCSDUP Date: 06/21/1996 10:25:37
Data File : E:\DX\DATA\HPLCA\8330\062196\06219601.d23
Method : e:\DX\METHOD\HPLCA\8330\062196.MET
ACI Address: 1 System: 1 Inject#: 23 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

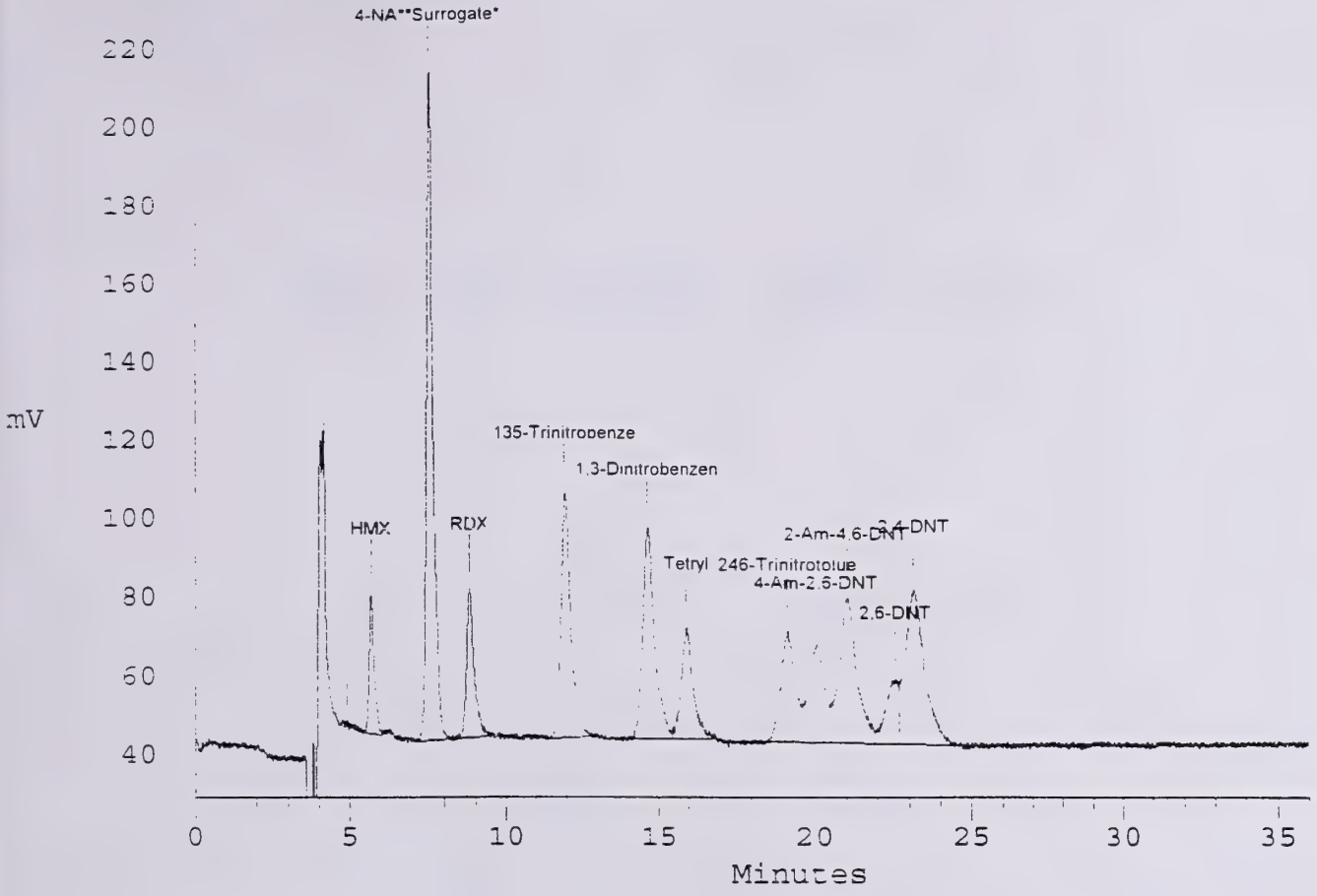
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.67	0.59	HMX	401357	1.696
3	7.50	1.35	4-NA**Surrogate*	2445315	8.599
4	8.80	1.15	RDX	642776	1.922
5	11.93	0.85	135-Trinitrobenze	1381407	1.901
6	14.63	0.92	1,3-Dinitrobenzen	1442279	1.366
7	15.93	1.06	Tetryl	757291	1.472
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.17	0.88	246-Trinitrotolue	885078	1.529
10	20.07	1.35	4-Am-2,6-DNT	831164	1.737
11	21.03	1.28	2-Am-4,6-DNT	1438730	1.932
11	22.56	0.33	2,6-DNT	457205	1.089
12	23.17	1.16	2,4-DNT	1695398	1.600
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	12378000	24.843

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.90			21268	0.000
			Totals	21268	0.000

File: 06219601.d23 Sample: 38230LCSDUP



RUN LOGS/EXTRACTION SHEETS

Analyst	Date /	Sample Name	Solution	Dil.	Raw Data	Method File	Reported	ReAnalyzed	ALS No. (lyl)
dfp	6/16/96	IB		1	HPLCA\8330\061696\0 .d01	HPLCA\8330\061696.	NO		INST
dfp	6/16/96	AUTOCAL1R	060S-36-1	1	HPLCA\8330\061696\0 1.d02	HPLCA\8330\061696.	YES		
dfp	6/16/96 15:..	AUTOCAL2R	060S-36-2	1	HPLCA\8330\061696\06169601.d03	HPLCA\8330\061696.			
dfp	6/16/96 15:42	AUTOCAL3R	060S-36-3	1	HPLCA\8330\061696\06169601.d04	HPLCA\8330\061696.			
dfp	6/16/96 16:20	AUTOCAL4R	060S-36-4	1	HPLCA\8330\061696\06169601.d05	HPLCA\8330\061696.			
dfp	6/16/96 16:58	AUTOCAL5R	060S-36-5	1	HPLCA\8330\061696\06169601.d06	HPLCA\8330\061696.			
dfp	6/16/96 17:36	AUTOCAL6R	060S-36-6	1	HPLCA\8330\061696\06169601.d07	HPLCA\8330\061696.			
dfp	6/16/96 18:15	IB		1	HPLCA\8330\061696\06169601.d08	HPLCA\8330\061696.	NO		INST BLK
dfp	6/16/96 18:53	L7076-1 1:5		51.55	HPLCA\8330\061696\06169601.d09	HPLCA\8330\061696.	YES		
dfp	6/16/96 19:31	L7076-1 1:2		20.62	HPLCA\8330\061696\06169601.d10	HPLCA\8330\061696.			
dfp	6/16/96 20:10	IB		1	HPLCA\8330\061696\06169601.d11	HPLCA\8330\061696.	NO		INST BLK
dfp	6/16/96 20:48	L7076-2 1:50		535	HPLCA\8330\061696\06169601.d12	HPLCA\8330\061696.	YES		
dfp	6/16/96 21:26	L7076-2 1:25		267.5	HPLCA\8330\061696\06169601.d13	HPLCA\8330\061696.			
dfp	6/16/96 22:04	L7076-2 1:10		107	HPLCA\8330\061696\06169601.d14	HPLCA\8330\061696.			
dfp	6/16/96 22:43	L7076-2 1:5		53.5	HPLCA\8330\061696\06169601.d15	HPLCA\8330\061696.			
dfp	6/16/96 23:21	IB		1	HPLCA\8330\061696\06169601.d16	HPLCA\8330\061696.	NO		INST BLK
dfp	6/17/96 0:00	CCV3	060S-36-3	1	HPLCA\8330\061696\06169601.d17	HPLCA\8330\061696.	YES		
dfp	6/17/96 0:38	CCV3		1	HPLCA\8330\061696\06169601.d18	HPLCA\8330\061696.	NO		EXTRA CCV
dfp	6/17/96 1:16	37212MB		1	HPLCA\8330\061696\06169601.d19	HPLCA\8330\061696.	NO	060796-2	Report 2nd Analysis
dfp	6/17/96 1:54	37212LCS		1	HPLCA\8330\061696\06169601.d20	HPLCA\8330\061696.			
dfp	6/17/96 2:33	37212LCSDUP		1	HPLCA\8330\061696\06169601.d21	HPLCA\8330\061696.			
dfp	6/17/96 3:11	37212MS		1	HPLCA\8330\061696\06169601.d22	HPLCA\8330\061696.			
dfp	6/17/96 3:49	37212MSD		1	HPLCA\8330\061696\06169601.d23	HPLCA\8330\061696.			
dfp	6/17/96 4:27	37638MB		1	HPLCA\8330\061696\06169601.d24	HPLCA\8330\061696.			
dfp	6/17/96 5:06	37638LCS		1	HPLCA\8330\061696\06169601.d25	HPLCA\8330\061696.			
dfp	6/17/96 5:44	37638LCSDUP		1	HPLCA\8330\061696\06169601.d26	HPLCA\8330\061696.			
dfp	6/17/96 6:22	37638MS-1		1	HPLCA\8330\061696\06169601.d27	HPLCA\8330\061696.			
dfp	6/17/96 7:00	37638MSD-1		1	HPLCA\8330\061696\06169601.d28	HPLCA\8330\061696.			
dfp	6/17/96 7:39	37638MS-2		1	HPLCA\8330\061696\06169601.d29	HPLCA\8330\061696.			
dfp	6/17/96 8:17	37638MSD-2		1	HPLCA\8330\061696\06169601.d30	HPLCA\8330\061696.			
dfp	6/17/96 8:55	L7096-2		1	HPLCA\8330\061696\06169601.d31	HPLCA\8330\061696.			
dfp	6/17/96 9:34	L7103-6		1	HPLCA\8330\061696\06169601.d32	HPLCA\8330\061696.			
dfp	6/17/96 10:12	L7103-1		1	HPLCA\8330\061696\06169601.d33	HPLCA\8330\061696.			
dfp	6/17/96 10:50	L7103-12		1	HPLCA\8330\061696\06169601.d34	HPLCA\8330\061696.			
dfp	6/17/96 11:47	IB		1	HPLCA\8330\061696\06169601.d35	HPLCA\8330\061696.	NO		INST. BLK.
dfp	6/17/96 12:25	CCV3	060S-36-3	1	HPLCA\8330\061696\06169601.d36	HPLCA\8330\061696.	NO		EXTRA CCV
dfp	6/17/96 13:03	CCV3	d	1	HPLCA\8330\061696\06169601.d37	HPLCA\8330\061696.	YES		
dfp	6/17/96 13:42	37212MB		9.95	HPLCA\8330\061696\06169601.d38	HPLCA\8330\061696.	YES		Report w/ 060796-A-2-3
dfp	6/17/96 14:20	37212LCS		10	HPLCA\8330\061696\06169601.d39	HPLCA\8330\061696.			
dfp	6/17/96 14:59	37212LCSDUP		9.95	HPLCA\8330\061696\06169601.d40	HPLCA\8330\061696.			
dfp	6/17/96 15:37	37212MS		10.07	HPLCA\8330\061696\06169601.d41	HPLCA\8330\061696.			
dfp	6/17/96 16:15	37212MSD		10.07	HPLCA\8330\061696\06169601.d42	HPLCA\8330\061696.			
dfp	6/17/96 16:54	37638MB		10	HPLCA\8330\061696\06169601.d43	HPLCA\8330\061696.			Report w/ 060796-A-4-5
dfp	6/17/96 17:32	37638LCS		9.95	HPLCA\8330\061696\06169601.d44	HPLCA\8330\061696.			
dfp	6/17/96 18:10	37638LCSDUP		10	HPLCA\8330\061696\06169601.d45	HPLCA\8330\061696.			
dfp	6/17/96 18:48	37638MS-1		10.82	HPLCA\8330\061696\06169601.d46	HPLCA\8330\061696.			
dfp	6/17/96 19:27	37638MSD-1		10.88	HPLCA\8330\061696\06169601.d47	HPLCA\8330\061696.			
dfp	6/17/96 20:05	37638MS-2		11.14	HPLCA\8330\061696\06169601.d48	HPLCA\8330\061696.			
dfp	6/17/96 20:43	37638MSD-2		11.2	HPLCA\8330\061696\06169601.d49	HPLCA\8330\061696.			
dfp	6/17/96 21:22	L7096-2		10.93	HPLCA\8330\061696\06169601.d50	HPLCA\8330\061696.			
dfp	6/17/96 22:00	L7103-6		10.28	HPLCA\8330\061696\06169601.d51	HPLCA\8330\061696.			

Analyst	Date	Sample Name	Solution	Dil.	Raw Date	Method File	Reported	ReAnalyzed	ALS No.	Hyl
dfp	6/17/96 .	L7103-1		10.14	HPLCA\8330\061696\0[illegible]1.d52	HPLCA\8330\061696.	YES			
dfp	6/17/96 23:18	L7103-12		10.13	HPLCA\8330\061696\06169601.d53	HPLCA\8330\061696.				
dfp	6/17/96 23:55	L7103-18		10.21	HPLCA\8330\061696\06169601.d54	HPLCA\8330\061696.				
dfp	6/18/96 0:33	L7103-23		10.13	HPLCA\8330\061696\06169601.d55	HPLCA\8330\061696.				
dfp	6/18/96 1:11	L7103-29		11.2	HPLCA\8330\061696\06169601.d56	HPLCA\8330\061696.				
dfp	6/18/96 1:50	IB		1	HPLCA\8330\061696\06169601.d57	HPLCA\8330\061696.	NO		INST. BLK	
dfp	6/18/96 2:28	CCV3	0605-36-3	1	HPLCA\8330\061696\06169601.d58	HPLCA\8330\061696.	NO		EXTRA CCV	
dfp	6/18/96 3:06	CCV3		1	HPLCA\8330\061696\06169601.d59	HPLCA\8330\061696.	YES			
dfp	6/18/96 3:44	37905MB		1	HPLCA\8330\061696\06169601.d60	HPLCA\8330\061696.	YES		Report w/	
dfp	6/18/96 4:23	37905LCS		1	HPLCA\8330\061696\06169601.d61	HPLCA\8330\061696.				
dfp	6/18/96 5:01	37905LCSDUP		1	HPLCA\8330\061696\06169601.d62	HPLCA\8330\061696.				
dfp	6/18/96 5:39	L7186-3		1	HPLCA\8330\061696\06169601.d63	HPLCA\8330\061696.				
dfp	6/18/96 6:17	L7186-4		1	HPLCA\8330\061696\06169601.d64	HPLCA\8330\061696.				
dfp	6/18/96 6:56	L7181-16		1	HPLCA\8330\061696\06169601.d65	HPLCA\8330\061696.				
dfp	6/18/96 7:34	L7181-20		1	HPLCA\8330\061696\06169601.d66	HPLCA\8330\061696.				
dfp	6/18/96 8:12	38019MB		1	HPLCA\8330\061696\06169601.d67	HPLCA\8330\061696.				
dfp	6/18/96 8:50	38019LCS		1	HPLCA\8330\061696\06169601.d68	HPLCA\8330\061696.				
dfp	6/18/96 9:29	38019LCSDUP		1	HPLCA\8330\061696\06169601.d69	HPLCA\8330\061696.				
dfp	6/18/96 10:07	L7219-1		1	HPLCA\8330\061696\06169601.d70	HPLCA\8330\061696.				
dfp	6/18/96 10:45	IB		1	HPLCA\8330\061696\06169601.d71	HPLCA\8330\061696.	NO		INST. BLK	
dfp	6/18/96 11:23	CCV3	0605-36-3	1	HPLCA\8330\061696\06169601.d72	HPLCA\8330\061696.	NO		EXTRA CCV	
dfp	6/18/96 12:02	CCV3		1	HPLCA\8330\061696\06169601.d73	HPLCA\8330\061696.	YES			
dfp	6/18/96 12:40	37906MB		1	HPLCA\8330\061696\06169601.d74	HPLCA\8330\061696.	YES			
dfp	6/18/96 13:18	37906LCS		1	HPLCA\8330\061696\06169601.d75	HPLCA\8330\061696.				
dfp	6/18/96 13:56	37906LCSDUP		1	HPLCA\8330\061696\06169601.d76	HPLCA\8330\061696.				
dfp	6/18/96 14:35	37906MS		1	HPLCA\8330\061696\06169601.d77	HPLCA\8330\061696.				
dfp	6/18/96 15:13	37906MSD		1	HPLCA\8330\061696\06169601.d78	HPLCA\8330\061696.				
dfp	6/18/96 15:54	L7186-7		1	HPLCA\8330\061696\06169601.d79	HPLCA\8330\061696.				
dfp	6/18/96 16:32	L7186-8		1	HPLCA\8330\061696\06169601.d80	HPLCA\8330\061696.				
dfp	6/18/96 17:10	L7181-4		1	HPLCA\8330\061696\06169601.d81	HPLCA\8330\061696.				
dfp	6/18/96 17:49	L7181-10		1	HPLCA\8330\061696\06169601.d82	HPLCA\8330\061696.				
dfp	6/18/96 18:27	L7076-1		1	HPLCA\8330\061696\06169601.d83	HPLCA\8330\061696.				
dfp	6/18/96 19:05	IB		1	HPLCA\8330\061696\06169601.d84	HPLCA\8330\061696.	NO		INST BLK	
dfp	6/18/96 19:44	L7076-2		1	HPLCA\8330\061696\06169601.d85	HPLCA\8330\061696.				
dfp	6/18/96 20:22	IB		1	HPLCA\8330\061696\06169601.d86	HPLCA\8330\061696.	NO		INST BLK	
dfp	6/18/96 21:00	38144MB		1	HPLCA\8330\061696\06169601.d87	HPLCA\8330\061696.				
dfp	6/18/96 21:39	38144LCS		1	HPLCA\8330\061696\06169601.d88	HPLCA\8330\061696.				
dfp	6/18/96 22:17	38144LCSDUP		1	HPLCA\8330\061696\06169601.d89	HPLCA\8330\061696.				
dfp	6/18/96 22:55	L7242-2		1	HPLCA\8330\061696\06169601.d90	HPLCA\8330\061696.				
dfp	6/18/96 23:34	L7242-4		1	HPLCA\8330\061696\06169601.d91	HPLCA\8330\061696.				
dfp	6/19/96 0:12	CCV3	0606-36-3	1	HPLCA\8330\061696\06169601.d92	HPLCA\8330\061696.	YES			
dfp	6/19/96 0:50	CCV3		1	HPLCA\8330\061696\06169601.d93	HPLCA\8330\061696.	NO		EXTRA CCV	

000147

Analyst	Da[illegible]me	Sample Name	Description/ Solution	Matrix/ Dil.	Raw D[illegible]	Method File	Reported	ReAnalyzed	ALS N	Only)
dfp	6/19/9[illegible]9	IB		1	HPLCA\8330\062096\[illegible]601.d01	HPLCA\8330\062096.	YES		Confirma	ONLY RI
dfp	6/19/96 20:17	HMX		1	HPLCA\8330\062096\06209601.d02	HPLCA\8330\062096.				
dfp	6/19/96 20:56	RDX		1	HPLCA\8330\062096\06209601.d03	HPLCA\8330\062096.				
dfp	6/19/96 21:34	246TNT		1	HPLCA\8330\062096\06209601.d04	HPLCA\8330\062096.				
dfp	6/19/96 22:12	4-AM		1	HPLCA\8330\062096\06209601.d05	HPLCA\8330\062096.				
dfp	6/19/96 22:50	2AM		1	HPLCA\8330\062096\06209601.d06	HPLCA\8330\062096.				
dfp	6/19/96 23:29	26DNT		1	HPLCA\8330\062096\06209601.d07	HPLCA\8330\062096.				
dfp	6/20/96 0:07	24DNT		1	HPLCA\8330\062096\06209601.d08	HPLCA\8330\062096.				
dfp	6/20/96 0:45	135TNB		1	HPLCA\8330\062096\06209601.d09	HPLCA\8330\062096.				
dfp	6/20/96 1:23	13DNB		1	HPLCA\8330\062096\06209601.d10	HPLCA\8330\062096.				
dfp	6/20/96 2:02	2NT		1	HPLCA\8330\062096\06209601.d11	HPLCA\8330\062096.				
dfp	6/20/96 2:40	3NT		1	HPLCA\8330\062096\06209601.d12	HPLCA\8330\062096.				
dfp	6/20/96 3:18	4NT		1	HPLCA\8330\062096\06209601.d13	HPLCA\8330\062096.				
dfp	6/20/96 3:57	IB		1	HPLCA\8330\062096\06209601.d14	HPLCA\8330\062096.				
dfp	6/20/96 4:35	L7076-1		1	HPLCA\8330\062096\06209601.d15	HPLCA\8330\062096.				
dfp	6/20/96 5:13	L7076-2 1:10		1	HPLCA\8330\062096\06209601.d16	HPLCA\8330\062096.				
dfp	6/20/96 5:52	L7076-2		1	HPLCA\8330\062096\06209601.d17	HPLCA\8330\062096.				
dfp	6/20/96 6:30	LL7218-1		1	HPLCA\8330\062096\06209601.d18	HPLCA\8330\062096.				
dfp	6/20/96 7:08	IB		1	HPLCA\8330\062096\06209601.d19	HPLCA\8330\062096.				
dfp	6/20/96 7:46	HMX		1	HPLCA\8330\062096\06209601.d20	HPLCA\8330\062096.				
dfp	6/20/96 8:25	RDX		1	HPLCA\8330\062096\06209601.d21	HPLCA\8330\062096.				
dfp	6/20/96 9:35	246TNT		1	HPLCA\8330\062096\06209601.d22	HPLCA\8330\062096.				
dfp	6/20/96 10:13	4-AM		1	HPLCA\8330\062096\06209601.d23	HPLCA\8330\062096.				
dfp	6/20/96 10:52	2AM		1	HPLCA\8330\062096\06209601.d24	HPLCA\8330\062096.				
dfp	6/20/96 11:30	26DNT		1	HPLCA\8330\062096\06209601.d25	HPLCA\8330\062096.				
dfp	6/20/96 12:08	24DNT		1	HPLCA\8330\062096\06209601.d26	HPLCA\8330\062096.				
dfp	6/20/96 12:47	135TNB		1	HPLCA\8330\062096\06209601.d27	HPLCA\8330\062096.				
dfp	6/20/96 13:25	13DNB		1	HPLCA\8330\062096\06209601.d28	HPLCA\8330\062096.				
dfp	6/20/96 14:03	2NT		1	HPLCA\8330\062096\06209601.d29	HPLCA\8330\062096.				
dfp	6/20/96 14:42	3NT		1	HPLCA\8330\062096\06209601.d30	HPLCA\8330\062096.				
dfp	6/20/96 15:20	4NT		1	HPLCA\8330\062096\06209601.d31	HPLCA\8330\062096.				

Analyst	d Time	Sample Name	Description/ Solution	Matrix/ Dil.	Raw ile	Method File	Reported	ReAnalyzed	nts/ ALS OA Only)
dlp	6/20/ 20:23	IB		1	HPLCA\8330\062196\06219601.d01	HPLCA\8330\062196.	NO		INSTRUMENT BLANK
dlp	6/20/96 21:01	AUTOCAL1R	0605 36 1	1	HPLCA\8330\062196\06219601.d02	HPLCA\8330\062196.	YES		
dlp	6/20/96 21:39	2r	0605 36 2	1	HPLCA\8330\062196\06219601.d03	HPLCA\8330\062196.	NO		INSTRUMENT ERROR
dlp	6/20/96 22:17	AUTOCAL2R	0605-36 3	1	HPLCA\8330\062196\06219601.d04	HPLCA\8330\062196.	YES		
dlp	6/20/96 22:56	AUTOCAL3R	0605 36 4	1	HPLCA\8330\062196\06219601.d05	HPLCA\8330\062196.	YES		
dlp	6/20/96 23:34	AUTOCAL4R	0605 36 5	1	HPLCA\8330\062196\06219601.d06	HPLCA\8330\062196.	YES		
dlp	6/21/96 0:12	AUTOCAL5R	0605 36 6	1	HPLCA\8330\062196\06219601.d07	HPLCA\8330\062196.	YES		
dlp	6/21/96 0:51	IB		1	HPLCA\8330\062196\06219601.d08	HPLCA\8330\062196.	NO		INSTRUMENT BLANK
dlp	6/21/96 1:29	L7076-1 1:5		51.55	HPLCA\8330\062196\06219601.d09	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 2:07	L7076-1 1:2		20.62	HPLCA\8330\062196\06219601.d10	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 2:46	L7076-1		10.31	HPLCA\8330\062196\06219601.d11	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 3:24	IB		1	HPLCA\8330\062196\06219601.d12	HPLCA\8330\062196.	NO		INSTRUMENT BLANK
dlp	6/21/96 4:02	L7076-2 1:50		535	HPLCA\8330\062196\06219601.d13	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 4:40	L7076-2 1:25		267.5	HPLCA\8330\062196\06219601.d14	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 5:19	L7076-2 1:10		107	HPLCA\8330\062196\06219601.d15	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 5:57	L7076-2 1:5		53.5	HPLCA\8330\062196\06219601.d16	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 6:35	L7076-2 1:2		21.4	HPLCA\8330\062196\06219601.d17	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 7:14	L7076-2		10.7	HPLCA\8330\062196\06219601.d18	HPLCA\8330\062196.	NO		INTERNAL USE ONLY
dlp	6/21/96 7:52	CCV3	0605-36 3	1	HPLCA\8330\062196\06219601.d19	HPLCA\8330\062196.	NO		EXTRA CCV
dlp	6/21/96 8:30	CCV3	0605 36-3	1	HPLCA\8330\062196\06219601.d20	HPLCA\8330\062196.	YES		
dlp	6/21/96 9:09	38230MB		12.5	HPLCA\8330\062196\06219601.d21	HPLCA\8330\062196.	YES		
dlp	6/21/96 9:47	38230LCS		12.5	HPLCA\8330\062196\06219601.d22	HPLCA\8330\062196.	YES		
dlp	6/21/96 10:25	38230LCSDUP		12.5	HPLCA\8330\062196\06219601.d23	HPLCA\8330\062196.	YES		
dlp	6/21/96 11:03	L7219 2		12.5	HPLCA\8330\062196\06219601.d24	HPLCA\8330\062196.	YES		
dlp	6/21/96 11:42	L7186 10		12.5	HPLCA\8330\062196\06219601.d25	HPLCA\8330\062196.	YES		
dlp	6/21/96 12:20	L7186 11		12 5	HPLCA\8330\062196\06219601.d26	HPLCA\8330\062196.	YES		
dlp	6/21/96 12:58	L7181 23		12 5	HPLCA\8330\062196\06219601.d27	HPLCA\8330\062196.	YES		
dlp	6/21/96 13:36	L7181 22		12 5	HPLCA\8330\062196\06219601.d28	HPLCA\8330\062196.	YES		
dlp	6/21/96 14:15	38230LCSDUP		12 5	HPLCA\8330\062196\06219601.d29	HPLCA\8330\062196.	NO		EXTRA ANALYSIS
dlp	6/21/96 14:53	CCV3	0605 36 3	1	HPLCA\8330\062196\06219601.d30	HPLCA\8330\062196.	YES		
dlp	6/21/96 15:36	EXP. TOL IN ACN		1	HPLCA\8330\062196\06219601.d31	HPLCA\8330\062196.	NO		CONTAMINATION INVEST.

LOCKHEED ANAL _ SERVICES

TRACKING SHEET DATA REPORT (bs17 EXPLOSIVES)

EXTRACTION SHEET FOR: 8330 EXPLOSIVES Extraction

WORKSHEET NUMBER: 8330 EXPLOSIVES_38019

HT = 06/18
DUE 06/18

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED/ CREATED	VOL WT EXTR	SURR uL	MS uL	WATER SAMPLE pH	EFFECTIVE FINAL VOLUME mL	AMT GIVEN TO ANALYST
					6-13-96					
L7219-1		9606151-OIL	11-JUN-96	13-JUN-96	400. mL	5.0		7	5.0 mL	5.0 mL
38019MB	MB	Method Blank		13-JUN-96						
38019LCS	LCS	Lab Ctrl Sample		13-JUN-96			8.0			
38019LCSDUP	LCSD	Lab Ctrl Sample Dup		13-JUN-96						
~~SPIKELOT38019~~	~~SPIKELOT~~	~~Spike Lot Sample~~		~~13-JUN-96~~						

VLE 06-13-96

XTRACTION STARTED : 6-13-96 EXTRACTION COMPLETED : 6-13-96

ONICATION
ATE & TIME STARTED : N/A DATE & TIME COMPLETED: N/A

SIGNED: David T. Hay

SIGNED:

SPIKED WITNESS: L. Harris

SIGNED:

C BATCH# : 8330 EXPLOSIVES_38019 LOT #'S

URR ID # : 0859-8-3 CONC: 1.0 mg/mL ACN : BM101

S ID # : 0259-37-1 CONC: 100 µg/mL NaCl: S271-3 CaCl2 : N/A

REVIEWED BY: Mark L Bruno 06-14-96

ARRATIVE

EXTRACT COC: RECIEVED BY: D Parks DATE: 6/14/96

000150

LOCKHEED ANAL...CAL SERVICES

TRACKING SHEET DATA REPORT (bs17 EXPLOSIVES)

EXTRACTION SHEET FOR: 8330 EXPLOSIVES Extraction

WORKSHEET NUMBER: 8330 EXPLOSIVES_38230

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED/ CREATED	VOL/WT EXTR	SURR uL	MS uL	WATER SAMPLE pH	EFFECTIVE FINAL VOLUME mL	AMT GIVEN TO ANALYST
					6-17-96			→	6-19-96	→
L7219-2		9606151-OIL	11-JUN-96	13-JUN-96	7.00 mL	5.0		7	5.0	5.0
38230MB	MB	Method Blank		18-JUN-96						
38230LCS	LCS	Lab Ctrl Sample		18-JUN-96			8.0			
38230LCSDUP	LCSD	Lab Ctrl Sample Dup		18-JUN-96			8.0			
~~SPIKELOT38230~~	~~SPIKELOT~~	~~Spike Lot Sample~~		~~18-JUN-96~~						VOID 6-19-96
L7186-10		029903-05-CY65E-GR-001-EB	05-JUN-96	08-JUN-96						
L7186-11		029889-05-CY65EA-GR-006-EB	04-JUN-96	08-JUN-96						
L7181-23		SW-2654-060396	03-JUN-96	07-JUN-96						
L7181-22		SW-2634-060396	03-JUN-96	07-JUN-96						

EXTRACTION STARTED : 6 17 96 EXTRACTION COMPLETED : 6 19 96

SONICATION DATE & TIME STARTED : N/A DATE & TIME COMPLETED: N/A

SIGNED: [signature]

SIGNED: _____

SPIKED WITNESS: VLB for LISA Harris 06-20-96

SIGNED: _____

QC BATCH# : 8330 EXPLOSIVES_38230 LOT #'S

SURR ID # : CLSY-2-3 CONC: 1.0 mL/mL ACN : B M 107

MS ID # : CLSZ-27-1 CONC: 100 ug/mL NaCl: 5 27-3 CaCl2 : N/A

REVIEWED BY: Annette Burns 06-20-96

EXTRACT COC: RECIEVED BY: D. Percy DATE: 6/20/96

NARRATIVE

Samples from L7186 and L7181 were re extracted performed out of holding time. [illegible]

VOC 06-20-96

000151

SHE 2
test well sampling
1st day
8/14/96

Commonwealth [illegible]

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: 0510502
Project # 400096_4_50

Workorder # 9608213

Authorized Signature

Stephen L. Knollmeyer 8/22/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

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[illegible]

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	02-test-814-F	8/14/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: Exploritory Well

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: Cert#: Lab Symbol:
Notes:

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L A	B	C	D	Lab Symbl
Lab Sample ID	---	---	---	9608241				----
Turbidity (NTU)	180.1	0.05	08/15/96	0.30				
TDS	160.1	5	08/19/96	40				
Color (color units)	SM2120B	5	08/15/96	<5				----
Odor (TON)	140.1	1	08/15/96	1				----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	08/19/96	6.0				
Hardness (CaCO3)	130.2	2	08/16/96	19				----
Calcium (Ca)	200.7	0.2	08/21/96	1.8				
Magnesium (Mg)	200.7	1	08/21/96	1.1				----
Aluminum (Al)	200.7	0.05	08/21/96	<0.05				----
Potassium (K)	258.1	1	08/21/96	<1				----
Iron (Fe)	200.7	0.05	08/21/96	<0.05				----
Manganese (Mn)	200.7	0.01	08/21/96	<0.01				----
Sulfate (SO4)	SM 4500-SO4-E	5	08/21/96	<5				

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	08/21/96	7.5				----
Silver (Ag)	272.1	0.01	NR					
Copper (Cu)	220.1	0.01	08/21/96	<0.01				
Zinc (Zn)	200.7	0.05	NR					----

Laboratory Director Signature and Date Stephen Kneeland 8/22/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
Comments:		

Commonwealth Analytical

Workorder #9608213

Laboratory Results Prepared For :

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER

Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : 0510502
Taken : 08/14/96
Transported : FED X
Type : GROUNDWATER
PO # : PS-027131

8/22/96 CFR
Certified by

Inorganic Results for 02-TEST-814-F

Matrix:GROUNDWATER — Collected on 08/14/96 10:15:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	6.0	mg/L	08/19/96	DF
01D	AMMONIA NITROGEN as N	<0.02	N, mg/L	08/15/96	SLS
01B	CHLORIDE	7.0	mg/L	08/21/96	SLS
01B	COLOR-APPARENT	<5	apparent color	08/15/96	SLS
01D	HARDNESS	19	mg/L	08/16/96	SLS
01C	NITRATE as NITROGEN	<0.02	N, mg/L	08/15/96	SLS
01C	NITRITE, as NITROGEN	<0.01	N, mg/L	08/15/96	SLS
01B	ODOR	1	TON	08/15/96	SLS
01B	SPECIFIC CONDUCTANCE	54	umhos/cm @25	08/20/96	DF
01A	SULFATE	<5	mg/L	08/21/96	SLS
01B	TOTAL DISSOLVED SOLIDS	40	mg/L	08/19/96	DF
01B	TURBIDITY	0.30	NTU	08/15/96	SLS

Metal Results for 02-TEST-814-F

Matrix:GROUNDWATER — Collected on 08/14/96 10:15:00

	Analyte	Result	Units	Test Date	Analyst
01E	ALUMINUM by ICP	<0.05	mg/L	08/21/96	BG
01E	CALCIUM by ICP	1.8	mg/L	08/21/96	BG
01E	COPPER by ICP	<0.01	mg/L	08/21/96	BG
E	IRON by ICP	<0.05	mg/L	08/21/96	BG
.E	MAGNESIUM by ICP	1.1	mg/L	08/21/96	BG
01E	MANGANESE by ICP	<0.01	mg/L	08/21/96	BG
01E	POTASSIUM by ICP	<1	mg/L	08/21/96	BG
01E	SODIUM by ICP	6.1	mg/L	08/21/96	BG

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: NITRATE as NITROGEN
Method 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition, 1996.

Test: NITRITE, as NITROGEN
Method SM 4500-NO3 Standard Methods for the Examination of Water and Wastewater 18th Edition 1992.

Test: ODOR
Method 140.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test Methodologies

Test: POTASSIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method 375.4, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, 1983 Revision.

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 01
(413)572-3200 fax(413)572-32

Client: Sure Water
Address: 245 Summer St Boston MA
Phone: 617 589 1249
Job#/Proj. Manager:
Work ID:
Contact:
Collected by:

Workorder # 9608213
COC #

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑ 20d
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Shaded areas for office use

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)
1. SO_4 (1206 Chem)
2. Metals (Reg Chem) (Ca, Mg, Na, K, Fe, Mn, Cu, Al)
3. Reg Chem - Turb, TDS, cond, color, odor, Alk, Cl
4. Reg Chem - NO_2, NO_3
5. Reg Chem - NH_4, Hardness

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
01A	02-TEST-814-F	GW	8.14.96 1015	✓		1	P							✓	5											1
01E									X					✓	5/1				X							
01B														✓	5											2
01C														✓	5											4
01D		▽	▽	▽	▽	▽	▽			✓					1											5

Relinquished by: [signature] Date: 8.14.96 Time: 1100
Relinquished by: Date: Time:
Relinquished by: RM Date: Time:
Method of shipment: Fed X

Received by: [signature] Date: 8-15-96 Time: 8:55
Received by: [signature] 8-15-96 Date: Time:
Received by: Date: Time:
Laboratory: CA

Cooler # No ice
Temp. @ receipt: 1.3c
Preservation pH checked
By: RM Date: 8-15-96

f:\data\excel\COCS-U.XLS rev.5/94

COOLER RECEIPT FORM

Contractor Cooler: Yes
MRD Cooler #: No #
Number of Coolers: 1

Workorder # 9608213

Project Name: 0510502

Date Received: 8-15-96

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-15-96

by (print) Lia Haworth (sign) Lia Haworth

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO
   If yes, enter carrier name & air bill number here: 706 724 3363
2. Were custody seals on outside of cooler? ..... YES (NO)
   How many & where: _____ seal date: _____ seal name: _____
   Cooler wrapped with Tape - Tape intact.
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO N/A
4. Did you screen samples for radioactivity using the Geiger Counter? ..... YES (NO)
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
9. If required, was enough ice used? ..yes..... Type of ice: Bagged ice ..... (YES) NO
   Cooler Temp 1.3°c
10. Have designated person initial here to acknowlege receipt of cooler: K.H (date) 8-15-96

B. LOG-IN PHASE: Date samples were logged-in: 8-15-96

by(print) Lia Haworth (sign) Lia Haworth

11. Describe type of packing in cooler: No packing.
12. Were all bottles sealed in separate plastic bags? ..... (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO
15. Did all bottle labels agree with custody papers? ..... (YES) NO
16. Were correct containers used for the tests indicated? ..... (YES) NO
17. Were correct preservatives added to samples? ..... YES (NO) *
18. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ YES NO N/A
20. Was the project manager called and status discussed? ..... (YES) NO
    If YES, give details on the back of this form.
21. Who was called? CFK By whom? Kia (date) 8-15-96

J:\QC\DOC\COOL

Site 2
test well sampling
middle day
8/16/96

Commonwealth [illegible]

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: 0510502
Project # 400096_4_50

Workorder # 9608241

Authorized Signature

Stephen L. Knollmeyer 8/22/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

Drinking Water • Wastewater • Hazardous Waste • Toxicity Testing • Mobile Laboratory

Westfield Executive Park • 53 Southampton Road • Westfield, MA 01085-5308 • Tel 413·572·3200 • Fax 413·572·3215

12020 Sunrise Valley Drive • Suite 100 • Reston, VA 22091-3429 • Tel 703·391·2770 • Fax 703·391·2766

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	02-test-816-F	8/16/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: Exploritory Well

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: Cert#: Lab Symbol:
Notes:

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L A	B	C	D	Lab Symbl
Lab Sample ID	---------	--------	-------	9608241				----
Turbidity (NTU)	180.1	0.05	08/16/96	0.08				
TDS	160.1	5	08/16/96	42				
Color (color units)	SM2120B	5	08/16/96	<5				----
Odor (TON)	140.1	1	08/16/96	1				----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	08/19/96	5.0				
Hardness (CaCO3)	130.2	2	08/21/96	16				----
Calcium (Ca)	200.7	0.2	08/21/96	1.8				
Magnesium (Mg)	200.7	1	08/21/96	1.1				----
Aluminum (Al)	200.7	0.05	08/21/96	<0.05				----
Potassium (K)	258.1	1	08/21/96	<1				----
Iron (Fe)	200.7	0.05	08/21/96	<0.05				----
Manganese (Mn)	200.7	0.01	08/21/96	<0.01				----
Sulfate (SO4)	SM 4500-SO4-E	5	08/21/96	<5				

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	08/21/96	7.0				----
Silver (Ag)	272.1	0.01	NR					
Copper (Cu)	220.1	0.01	08/21/96	<0.01				
Zinc (Zn)	200.7	0.05	NR					----

Laboratory Director Signature and Date Stephen Kowalczyk 8/22/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
Comments:		

Commonwealth Analytical

Workorder #9608241

Laboratory Results Prepared For :

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER

Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : 0510502
Taken : 08/16/96
Transported : TDK-CA
Type : GROUNDWATER
PO # : PS-027131

8/22/96 CFR
Certified by

Commonwealth Analytical

Workorder #9608241

Inorganic Results for 02-TEST-816-F

Matrix:GROUNDWATER — Collected on 08/16/96 09:15:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	5.0	mg/L	08/19/96	DF
01E	AMMONIA NITROGEN as N	<0.02	N, mg/L	08/21/96	SLS
01B	CHLORIDE	7.5	mg/L	08/21/96	SLS
01B	COLOR-APPARENT	<5	apparent color	08/16/96	DF
01E	HARDNESS	16	mg/L	08/21/96	SLS
01D	NITRATE as NITROGEN	<0.02	N, mg/L	08/16/96	SLS
01D	NITRITE, as NITROGEN	<0.01	N, mg/L	08/16/96	SLS
01B	ODOR	1	TON	08/16/96	DF
01B	SPECIFIC CONDUCTANCE	53	umhos/cm @25	08/20/96	DF
01C	SULFATE	<5	mg/L	08/21/96	SLS
01B	TOTAL DISSOLVED SOLIDS	42	mg/L	08/19/96	DF
01B	TURBIDITY	0.08	NTU	08/16/96	DF

Biology Results for 02-TEST-816-F

Matrix:GROUNDWATER — Collected on 08/16/96 09:15:00

	Analyte	Result	Units	Test Date	Analyst
01A	TOTAL COLIFORM BACTERIA	0	colonies/100ml	08/16/96	PS

Metal Results for 02-TEST-816-F

Matrix:GROUNDWATER — Collected on 08/16/96 09:15:00

	Analyte	Result	Units	Test Date	Analyst
01F	ALUMINUM by ICP	<0.05	mg/L	08/21/96	BG
01F	CALCIUM by ICP	1.8	mg/L	08/21/96	BG
01F	COPPER by ICP	<0.01	mg/L	08/21/96	BG
01F	IRON by ICP	<0.05	mg/L	08/21/96	BG
01F	MAGNESIUM by ICP	1.1	mg/L	08/21/96	BG
01F	MANGANESE by ICP	<0.01	mg/L	08/21/96	BG
01F	POTASSIUM by flame AA	<1	mg/L	08/21/96	BG
01F	SODIUM by ICP	6.0	mg/L	08/21/96	BG

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: NITRATE as NITROGEN
Method 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition, 1996.

Test: NITRITE, as NITROGEN
Method SM 4500-NO3 Standard Methods for the Examination of Water and Wastewater 18th Edition 1992.

Test: ODOR
Method 140.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test Methodologies

Test: POTASSIUM by flame AA
Method 258.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method 375.4, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TOTAL COLIFORM BACTERIA
Method 909A, Standard Methods for the Examination of Water and Wastewater, 16TH Edition, 1985.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, 1983 Revision.

COOLER RECEIPT FORM

Contractor Cooler: Yes
MRD Cooler #: 25-M
Number of Coolers: 1

Workorder # 9608241

Project Name: 0510 502

Date Received: 8-16-96

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-16-96

by (print) Lia Haworth (sign) Lia Haworth

1. Did cooler come with a shipping slip (air bill, etc.)? ..... YES (NO)
   If yes, enter carrier name & air bill number here: _____
2. Were custody seals on outside of cooler? ..... YES (NO)
   How many & where: _____ seal date: _____ seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO N/A
4. Did you screen samples for radioactivity using the Geiger Counter? ..... YES (NO)
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
9. If required, was enough ice used? ..Yes..... Type of ice: Bagged ice ..... (YES) NO
   Cooler Temp 3.8°C
10. Have designated person initial here to acknowlege receipt of cooler: K.H (date) 8-16-96

B. LOG-IN PHASE: Date samples were logged-in: 8-16-96

by(print) Lia Haworth (sign) Lia Haworth

11. Describe type of packing in cooler: Wave
12. Were all bottles sealed in separate plastic bags? ..... (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO
15. Did all bottle labels agree with custody papers? ..... (YES) NO
16. Were correct containers used for the tests indicated? ..... (YES) NO
17. Were correct preservatives added to samples? ..... YES (NO) *
18. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ YES NO N/A
20. Was the project manager called and status discussed? ..... YES (NO)
    If YES, give details on the back of this form.
21. Who was called? _____ By whom? _____ (date) _____

J:\QC\DOC\COOL

Chain of Custody Form

(413)572-3200 fax(413)572-321

Client: S. J. Webster
Address: 245 Summer St Boston MA
Phone: (617 539)2749

Job#/Proj. Manager: (CO, JS)
Work ID: 2519802
Contact: (Collins)
Collected by: (Collins)

Workorder # 9608241

COC #

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☐ Specify: 20d

Special Detection Limits?(✓)
Yes ☐ No ☒
Specify:

Special QA/QC? (✓)
Yes ☐ No ☒
Specify:

Shaded areas for office use

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)

1. Metals - Reg Chem (Ca, Mg, Na, K, Fe, Mn, Cu, Al)
2. Reg Chem - turb, TDS, cond, color, odor, alk, Cl
3. Reg Chem - SO4
4. Reg Chem - NH4, Hardness
5. Reg Chem - NO2, NO3
6. Coliform Bacteria

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# Containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other ___	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
01F	02-TEST-816-F	SW	8/15/96	✓		1	P		X					✓	1				1						
01B						1	P							✓	6										2
01C						1	P							✓	6										3
01E						1	P			✓				✓	1										4
01D						1	P			✓				✓	6										5
01A		↓	↓	↓		1	P	✓																6	

Relinquished by: [signature] Date: 08-16-96 Time: 1000
Received by: [signature] Date: 8-16-96 Time: 1000

Relinquished by: [signature] Date: 8-16-96 Time: 1315
Received by: [signature] Date: 8-16-96 Time: 13:15

Relinquished by: Date: Time:
Received by: Date: Time:

Method of shipment: Via C/A
Laboratory: C/A

Cooler #: 25 ml
Temp. @ receipt: 3.8 c
Preservation pH checked
By: RK Date: 8-16-96

f:\data\excel\COCS-U.XLS rev.5/94

Site 2
test well sampli
last day
8/19/96

Commonwealth

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention: CARRIE COLLINS

Work ID: 0510502
Project # 400096_4_50

Workorder # 9608264

Authorized Signature

Stephen L. Knollmeyer 10/11/96

Massachusetts Certificate MA014
Connecticut Certificate PH-0494
New Hampshire DES 253993 - A + C
New Jersey DEP Certificate 59845
New York Department of Health 10843
Rhode Island Department of Health 57
North Carolina Certificate 408
US Army Corps of Engineers

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MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY

INORGANICS REPORT (FORM #1A.2)

IOC

I. PWS INFORMATION:

1. PWS ID# INA
2. City/Town: Bourne
3. PWS Name: MMR
4. PWS Class (circle one): COM, NTNC, NC
5. DEP Source Code/Location ID: INA
6. Sample Location: 02-TEST-819-F
7. Date Collected: 8/19/96
8. Collected by: Collins

Is the Source Treated? No

10. Was the Sample Collected after Treatment? No

11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical
Lab Cert.#: MA-014
Subcontracted? (Y,N) N
Lab Sample ID#: 9607361

(use symbols to relate each analyte to a specific lab)

Sub. Name: Cert.#: Lab Symbol:

Composite: [ ] If applicable, list the composited sources (DEP Source Code/Sample Location):

Notes:

Compound (regulated)	Lab Sample ID#	Result mg/L	MCL mg/L	Detection Limit mg/L	Analytical Method	Date Analyzed	Lab Symbol
Arsenic	9608264	<0.005	0.05	0.005	200.7	09/06/96	
Barium	9608264	<0.01	2.0	0.02	200.7	09/06/96	
Cadmium	9608264	<0.001	0.005	0.002	200.7	09/06/96	
Chromium	9608264	<0.005	0.1	0.005	200.7	09/06/96	
Fluoride*	9608264	0.12	4.0	0.1	SM 4500-F-B	08/20/96	
Mercury	9608264	<0.0002	0.002	0.0002	SM 3112B	08/29/96	
Selenium	9608264	<0.002	0.05	0.002	SM 3113B	09/14/96	
Sodium	9608264	6.3	none	1.0	200.7	09/16/96	
Antimony	9608264	<0.003	0.006	0.003	SM 3113B	09/13/96	
Beryllium	9608264	<0.0003	0.004	0.0003	SM 3113B	09/20/96	
Nickel	9608264	0.0013	0.1	0.001	SM 3113B	09/20/96	
Thallium	9608264	<0.001	0.002	0.001	200.9	09/21/96	
Cyanide	9608264	<0.01	0.2	0.01	SM 4500-CN-C	08/23/96	
Compound (unregulated)	**Lab Sample ID#**	**Result mg/L**	**MCL mg/L**	**Detection Limit mg/L**	**Analytical Method**	**Date Analyzed**	**Lab Symbol**
Sulfate	9608264	5.5	---	2	SM 4500-S04-E	08/21/96	

* There is also a secondary MCL for fluoride which is 2.0 mg/L

Laboratory Director Signature and Date 10/11/96

Attention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention; WQA-SAMP; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY N

NITRATE REPORT
(FORM #1B.1)

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	02-TEST-819-F	8/19/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Is the Sample Chlorinated? No

11. Was the Sample Collected after Treatment? No

12. Manifolded: [ ] If applicable, list the connected sources:

13. Routine [] Special [X] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:

Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	<0.02			
MCL (mg/L)	10.0			
Detection Limit (mg/L)	0.02			
Analytical Method	SM 4500-NO3-F			
Date Analyzed*	08/21/96			
Lab Sample ID#	9608264-01D			

* Holding time for chlorinated samples is 48 hours. Holding time for non-chlorinated samples is 14 days.

Laboratory Director Signature and Date Stephen Kmullen 10/11/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

ted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY NI

NITRITE REPORT
(FORM #1C.1)

I. PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
A: INA	02-TEST-819-F	8/19/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded: [ ] If applicable, list the connected sources:

12. Routine [ ] Special [X] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N

Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

	Sample A	Sample B	Sample C	Sample D
Result (mg/L)	<0.01			
MCL (mg/L)	1.0	1.0	1.0	1.0
Detection Limit (mg/L)	0.01			
Analytical Method	SM 4500-NO3-F			
Date Analyzed*	08/21/96			
Lab Sample ID#	9608264-01D			

Laboratory Director Signature and Date Stephen Kandlong 10/11/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

Accepted:	Disapproved:	Data Entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
RADIONUCLIDE REPORT (FORM #6.1)

R

PWS INFORMATION:

1. PWS ID# INA _ _ _ _ _ _ 2. City/Town: Bourne

3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source Code/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	02-TEST-819-F	8/19/96	Collins

9. Routine [ ] Special [x] (explain below)

Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014

Subcontracted? (Y,N) Y Lab Sample ID#: 9608264

Sub. Lab Name: Core Laboratories Sub. Lab Cert.#: EPA

Sample Preservative Used, If Any:

Composite? (Y/N) ___ If Y, list the dates of the composited samples:

Notes: Gamma analysis was analyzed on 09/03/96. Results as follows: Bismuth detected at 81.4 pCi/L, Potassium detected at 188 pCi/L and Lead detected at 59.1 pCi/L.

	Result (pCi/L)	MCL	Detection Limit (pCi/L)	Analytical Method	Date Analyzed
Gross Alpha Activity	ND	15 pCi/L	0.9	900.0	07/31/96
Radium - 226*	ND	5 pCi/L	0.4	903.1	07/30/96
Radium - 228*	ND		1.3	904.0	07/30/96
Radon **	1380	----	266		07/26/96
AND for surface water systems serving >100,000 persons:					
Beta Particle Activity	ND	4 mrems/yr	1.6	900.0	07/31/96
Photon Activity	NR	4 mrems/yr			
Tritium	ND	20,000 pCi/L	148	906.0	07/29/96
Strontium - 90	ND	8 pCi/L	2.2	905.0	08/03/96

* A gross alpha particle measurement may be substituted for the radium - 226, 228 analysis if the gross alpha is less than 5pCi per liter (95% confidence level).

** Radon testing is optional.

NOTE: If gross alpha activity exceeds 15 pCi/L, uranium must also be measured. If gross beta particle exceeds 50 pCi/L, analysis of the sample shall be performed to identify the major radioactive constituents including strontium - 89, cesium - 134, iodine - 131, and uranium.

Laboratory Director Signature and Date Stephen Knollmeyer 10/11/96

Attention:

Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

1 Unless you are specifically instructed to do otherwise by your regional office, radionuclide sampling is to be performed at a DEP approved location representative of the ultimate user in the distribution system.

DEP/DWS USE ONLY: PLEASE INITIAL & DATE AS COMPLETED

pted:	Disapproved:	Data Entered into WQTS:
Comments:		

SECONDARY CONTAMINANT REPORT
(FORM #12.1)

PWS INFORMATION:

1. PWS ID#: INA _ _ _ _ _ _ 2. City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

4. DEP Source Code/Location ID	5. Sample Location	6. Date Collected	8. Collected by
A: INA	02-TEST-819-F	8/19/96	Collins
B:			
C:			
D:			

9. Is the Source Treated? No 10. Was the Sample Collected after Treatment? No
11. Manifolded? [ ] If applicable, list the connected sources:

Notes: The well was chlorinated and flushed prior to sampling.

II LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) ____ (use symbols to relate each analyte to a specific lab)
Sub. Lab Name: ____ Cert#: ____ Lab Symbol: ____
Notes: ____

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Lab Sample ID	---------	--------	-------	9608264				----
Turbidity (NTU)	180.1	0.05	08/20/96	0.48				
TDS	160.1	5	08/26/96	43				
Color (color units)	SM2120B	5	08/20/96	<5				----
Odor (TON)	140.1	1	08/20/96	1				----
pH	150.1	1	NR					
Alkalinity-Total (CaCO3)	310.1	1	08/27/96	3.5				
Hardness (CaCO3)	130.2	2	08/21/96	12				----
Calcium (Ca)	200.7	0.2	09/06/96	17				
Magnesium (Mg)	200.7	1	09/06/96	1.0				----
Aluminum (Al)	200.7	0.05	09/12/96	<0.05				----
Potassium (K)	258.1	0.05	09/20/96	0.56				----
Iron (Fe)	200.7	0.05	09/18/96	<0.05				----
ganese (Mn)	200.7	0.01	09/06/96	<0.01				----
ulfate (SO4)	SM 4500-SO4-E	2	08/21/96	5.5				

PWSID#: INA (Form #12.1) Town: Bourne

SEC_CON

	Analytical Method	Detection Limit mg/L	Date Analyzed	Results mg/L				Lab Symbl
				A	B	C	D	
Chloride (Cl)	SM4500Cl B	1	08/21/96	5.5				----
Silver (Ag)	272.1	0.01	09/20/96	<0.01				
Copper (Cu)	220.1	0.01	09/18/96	<0.01				
Zinc (Zn)	200.7	0.05	-	NR				----

Laboratory Director Signature and Date [signature] 10/11/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

FOR DEP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
ents:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
VOLATILE ORGANIC CONTAMINANT REPORT
(FORM #7.2)

VOC

PWS INFORMATION

1. PWS ID#: INA _ _ _ _ _ _ City/Town: Bourne
3. PWS Name: MMR 4. PWS Class (circle one): COM, NTNC, NC

5. DEP Source/Location ID	6. Sample Location	7. Date Collected	8. Collected by
INA	02-TEST-819-F	08/19/96	Collins

9. Is the Source Treated? No 10. Was the Sample Collected After Treatment? No
11. Manifolded [ ] If applicable, list the connected sources:

12. Routine [ ] Special [x] (explain below)
Notes: The well was chlorinated and flushed prior to sampling.

II. LABORATORY ANALYTICAL INFORMATION:

Lab Name: Commonwealth Analytical Lab Cert.#: MA-014
Subcontracted? (Y,N) N Lab Sample ID#: 9607361-01
Sub. Lab Name: Sub. Lab Cert.#:
Composited [ ] If applicable, list the composited sources:

Notes:

Compound (Regulated)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Benzene	ND	5.0	0.5	524.2	08/22/96
Carbon Tetrachloride	ND	5.0	0.5	524.2	08/22/96
1,1-Dichloroethylene	ND	7.0	0.5	524.2	08/22/96
1,2-Dichloroethane	ND	5.0	0.5	524.2	08/22/96
para-Dichlorobenzene	ND	5.0	0.5	524.2	08/22/96
Trichloroethylene	ND	5.0	0.5	524.2	08/22/96
1,1,1-Trichloroethane	ND	200.0	0.5	524.2	08/22/96
Vinyl Chloride	ND	2.0	0.5	524.2	08/22/96
Monochlorobenzene	ND	100.0	0.5	524.2	08/22/96
o-Dichlorobenzene	ND	600.0	0.5	524.2	08/22/96
trans-1,2-Dichloroethylene	ND	100.0	0.5	524.2	08/22/96
cis-1,2-Dichloroethylene	ND	70.0	0.5	524.2	08/22/96
1,2-Dichloropropane	ND	5.0	0.5	524.2	08/22/96
Ethylbenzene	ND	700.0	0.5	524.2	08/22/96
Styrene	ND	100.0	0.5	524.2	08/22/96
Tetrachloroethylene	ND	5.0	0.5	524.2	08/22/96
Toluene	ND	1000.0	0.5	524.2	08/22/96
Xylenes (total)	ND	10000.0	0.5	524.2	08/22/96
Dichloromethane	ND	5.0	0.5	524.2	08/22/96
1,2,4-Trichlorobenzene	ND	70.0	0.5	524.2	08/22/96
1,1,2-Trichloroethane	ND	5.0	0.5	524.2	08/22/96

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Chloroform	1.5	0.5	524.2	08/22/96
Bromodichloromethane	ND	0.5	524.2	08/22/96
Chlorodibromomethane	ND	0.5	524.2	08/22/96
Bromoform	ND	0.5	524.2	08/22/96
m-Dichlorobenzene	ND	0.5	524.2	08/22/96
Dibromomethane	ND	0.5	524.2	08/22/96
1,1-Dichloropropene	ND	0.5	524.2	08/22/96
1,1-Dichloroethane	ND	0.5	524.2	08/22/96
1,1,2,2-Tetrachloroethane	ND	0.5	524.2	08/22/96
1,3-Dichloropropane	ND	0.5	524.2	08/22/96
Chloromethane	ND	0.5	524.2	08/22/96
Bromomethane	ND	0.5	524.2	08/22/96
1,2,3-Trichloropropane	ND	0.5	524.2	08/22/96
1,1,1,2-Tetrachloroethane	ND	0.5	524.2	08/22/96
Chloroethane	ND	0.5	524.2	08/22/96
2,2-Dichloropropane	*ND	0.5	524.2	08/22/96
o-Chlorotoluene	ND	0.5	524.2	08/22/96
p-Chlorotoluene	ND	0.5	524.2	08/22/96
Bromobenzene	ND	0.5	524.2	08/22/96
1,3-Dichloropropene	ND	0.5	524.2	08/22/96
1,2,4-Trimethylbenzene	ND	0.5	524.2	08/22/96
1,2,3-Trichlorobenzene	ND	0.5	524.2	08/22/96
n-Propylbenzene	ND	0.5	524.2	08/22/96
n-Butylbenzene	ND	0.5	524.2	08/22/96
Napthalene	ND	0.5	524.2	08/22/96
Hexachlorobutadiene	ND	0.5	524.2	08/22/96
1,3,5-Trimethylbenzene	ND	0.5	524.2	08/22/96
p-Isopropyltoluene	ND	0.5	524.2	08/22/96
Isopropylbenzene	ND	0.5	524.2	08/22/96
Tert-butylbenzene	ND	0.5	524.2	08/22/96

* Result is reported as an estimate.

(FORM #7.2)

PWS ID No: INA

Town: Bourne

VOC

Compound (Unregulated)	Result µg/L	Detection Limit µg/L	Analytical Method	Date Analyzed
Sec-butylbenzene	ND	0.5	524.2	08/22/96
Fluorotrichloromethane	ND	0.5	524.2	08/22/96
Dichlorodifluoromethane	ND	0.5	524.2	08/22/96
Bromochloromethane	ND	0.5	524.2	08/22/96
Methyl Tertiary Butyl Ether*				

* optional

Surrogate Recoveries (As required by EPA methods 502.1 and 524.2)

Compound	% Recovered	QC Limits (%)
4-bromofluorobenzene	80	80-120
1,2-dichlorobenzene-d_4	76	80-120

The QA/QC required matrix spike sample information is on file at our office.

Laboratory Director Signature and Date: Stephen Kneeland 10/4/96

Attention: Mail TWO copies of this report to **DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention: WQA-SAMP**; within 30 days of receipt of results and no later than 10 days after the end of the reporting period.

EP/DWS USE ONLY: PLEASE INITIAL AND DATE AS COMPLETED

Accepted:	Disapproved:	Data entered into WQTS:
Comments:		

MASSACHUSETTS DEP/DIVISION OF WATER SUPPLY
SYNTHETIC ORGANIC CONTAMINANTS REPORT
(FORM #9.2)

PWS INFORMATION:
WS ID#: INA
2. City/Town: Bourne
WS Name: MMR
4. PWS Class (circle one): COM NTNC NC
5. DEP Source Code/Location ID: INA
6. Sample Location: 02-TEST-819-F
7. Date Collected: 08/19/96
8. Collected by: Collins
9. Is the Source Treated? Yes
10. Was the Sample Collected after Treatment? Yes
10. Manifolded (Multiple) [ ] If applicable, list the connected sources:
11. Routine [ ] Special [x (explain below)
Notes: Exploritory Well

I. LABORATORY ANALYTICAL INFORMATION:
Lab Name: Commonwealth Analytical
Lab Cert.#: MA-014
Subcontracted? (Y,N) Y
Lab Sample ID#: 9608264-01
(Use symbols to relate each analyte to a specific lab):
Sub. Name: Broward Testing Laboratories,Inc.
M-FL517
Lab Symbol: *
Sub. Name:
#
Lab Symbol:
Composite [ ] If applicable, list the composited sources (DEP Source Code/Location ID#:)

Notes:

ompound: Regulated	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
arbofuran	ND	40	0.7	531.1	N/A	08/27/96	*
xamyl (Vydate)	ND	200	0.9	531.1	N/A	08/27/96	*
	ND	70	1	515.1	08/29/96	09/03/96	
-TP (Silvex)	ND	50	0.7	515.1	08/29/96	09/03/96	
alapon	ND	200	1	515.1	08/29/96	09/03/96	
inoseb	ND	7	0.5	515.1	08/29/96	09/03/96	
icloram	ND	500	1	515.1	08/29/96	09/03/96	
achlor	NR	2	0.7	507			
razine	NR	3	0.3	507			
lordane	ND	2	0.18	508	08/21/96	08/28/96	
ndrin	ND	2	0.13	508	08/21/96	08/28/96	
eptachlor	ND	0.4	0.04	508	08/21/96	08/28/96	
eptachlor epoxide	ND	0.2	0.05	508	08/21/96	08/28/96	
indane	ND	0.2	0.03	508	08/21/96	08/28/96	
ethoxychlor	ND	40	0.1	508	08/21/96	08/28/96	
CB Aroclor 1016	ND	---	0.48	508	08/21/96	08/28/96	
CB Aroclor 1221	ND	---	0.2	508	08/21/96	08/28/96	
CB Aroclor 1232	ND	---	0.08	508	08/21/96	08/28/96	
roclor 1242	ND	---	0.15	508	08/21/96	08/28/96	
Aroclor 1248	ND	---	0.19	508	08/21/96	08/28/96	
CB Aroclor 1254	ND	---	0.1	508	08/21/96	08/28/96	

WS ID No: _____ (FORM #9.2) Town: Bourne **SOC**

ompound: Regulated (continued)	Result µg/L	MCL µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aroclor 1260	ND	---	0.17	508	08/21/96	08/28/96	
(decachlorobiphenyl)	ND	0.5		508A	08/21/96	08/28/96	
entachlorophenol	ND	1	0.3	515.1	08/29/96	09/03/96	
oxaphene	ND	3	1	508	08/21/96	08/28/96	
enzo(a)pyrene	ND	0.2	0.1	515.1	08/29/96	09/03/96	
i(2-ethylhexyl)adipate	ND	400	0.6	525.5	08/26/96	09/07/96	
i(2-ethylhexyl)phthalates	ND	6	3	525.2	08/26/96	09/07/96	
exachlorobenzene	ND	1	0.09	508	08/21/96	08/28/96	
exachlorocyclopentadiene	ND	50	0.05	508/525	08/21/96	08/28/96	
imazine	NR	4	2	507			
ibromochloropropane (DBCP)*	ND	0.2	0.01	504.1	08/20/96	08/21/96	
thylene dibromide (EDB)*	ND	0.02	0.01	504.1	08/20/96	08/21/96	
iquat		20					
ndothall		100					
lyphosate		700					
,3,7,8-TCDD (Dioxin)		$3X10^{-8}$					

MONITORING FOR THESE COMPOUNDS HAS BEEN WAIVED ON A STATEWIDE BASIS FOR BOTH GROUND AND SURFACE WATER SOURCES.**

Compound: Unregulated	Result µg/L	Detection Limit µg/L	Analytical Method	Date Extracted	Date Analyzed	Lab Symbol
Aldicarb	ND	0.3	531.1	N/A	08/27/96	*
ldicarb sulfoxide	ND	0.5	531.1	N/A	08/27/96	*
Aldicarb sulfone	ND	0.5	531.1	N/A	08/27/96	*
Carbaryl	ND	0.7	531.1	N/A	08/27/96	*
3-Hydroxycarbofuran	ND	0.4	531.1	N/A	08/27/96	*
Methomyl	ND	1.1	531.1	N/A	08/27/96	*
Dicamba	ND	0.08	515.1	08/29/96	09/03/96	
Aldrin	ND	0.08	508	08/21/96	08/28/96	
Butachlor	NR	0.3	507			
Dieldrin	ND	0.01	508	08/21/96	08/28/96	
Metolachlor	NR	0.7	507			
Metribuzin	NR	0.1	507			
Propachlor	ND	0.14	508	08/21/96	08/28/96	

ne QA/QC required matrix spike sample information is on file at our office.

Monitoring for these two compounds has been waived on a statewide basis for SURFACE WATER SOURCES only. Unless specifically requested DEP, SURFACE WATER SOURCES do not have to monitor for these compounds.

If you have been specifically instructed by DEP to monitor for these compounds, please report them on a separate sheet.

aboratory Director Signature and Date Stephen Knollmeyer 10/11/96

ttention: Mail TWO copies of this report to DEP/DWS; 1 Winter Street; 9th Floor; Boston, MA 02108; Attention WQA-

thin 30 days of receipt of results and within 10 days after the end of the reporting period.

DWS USE ONLY: PLEASE INITIAL AS COMPLETED

cepted:	Disapproved:	Data Entered into WQTS:
mments:		

Commonwealth Analytical

Workorder #9608264

Laboratory Results Prepared For :

STONE & WEBSTER
245 SUMMER STREET
BOSTON, MA 02210

Attention : CARRIE COLLINS

Company : STONE & WEBSTER

Facility : BOSTON, MA
Contact : CFR

Laboratory Results Prepared By :

Commonwealth Analytical
53 Southampton Rd.
Westfield, MA 01085
Attention : Stephen L. Knollmeyer
(413) 572-3200

Work ID : 0510502
Taken : 08/19/96
Transported : FED X
Type : GROUNDWATER
PO # : PS-027131

9/26/96 GCB

Certified by

Workorder Comments

Aromatic analysis was performed by Lockheed Laboratories. Radiochemistry was performed by Core Laboratories. Method 531 was performed by Broward Testing Laboratories Inc. Cert. # M-FL517.

Inorganic Results for 02-TEST-819-F

Matrix:GROUNDWATER — Collected on 08/19/96 09:00:00

	Analyte	Result	Units	Test Date	Analyst
01B	ALKALINITY	3.5	mg/L	08/27/96	TV
01E	AMMONIA NITROGEN as N	<0.02	N, mg/L	08/21/96	SLS
01B	CHLORIDE	5.5	mg/L	08/21/96	SLS
01B	COLOR-APPARENT	<5	apparent color	08/20/96	SLS
01F	CYANIDE, TOTAL	<0.01	mg/L	08/23/96	TM
01C	FLUORIDE	0.12	mg/L	08/20/96	DF
01E	HARDNESS	12	mg/L	08/21/96	SLS
01D	NITRATE as NITROGEN	<0.02	N, mg/L	08/21/96	SLS
01D	NITRITE, as NITROGEN	<0.01	N, mg/L	08/21/96	SLS
01B	ODOR	1	TON	08/20/96	SLS
01B	SPECIFIC CONDUCTANCE	51	umhos/cm @25	08/20/96	DF
01C	SULFATE	5.5	mg/L	08/21/96	SLS
01B	TOTAL DISSOLVED SOLIDS	43	mg/L	08/26/96	DF
01B	TURBIDITY	0.48	NTU	08/20/96	SLS

Biology Results for 02-TEST-819-F

Matrix:GROUNDWATER — Collected on 08/19/96 09:00:00

	Analyte	Result	Units	Test Date	Analyst
01A	TOTAL COLIFORM BACTERIA	0	colonies/100ml	08/20/96	PS

Metal Results for 02-TEST-819-F

Matrix:GROUNDWATER — Collected on 08/19/96 09:00:00

	Analyte	Result	Units	Test Date	Analyst
01G	ALUMINUM by ICP	<0.05	mg/L	09/12/96	JLZ
01G	ANTIMONY by furnace AA	<0.003	mg/L	09/13/96	BG
01G	ARSENIC by ICP	<0.005	mg/L	09/06/96	BG
01G	BARIUM by ICP	<0.01	mg/L	09/06/96	BG
01G	BERYLLIUM by furnace AA	<0.0003	mg/L	09/20/96	JLZ
01G	CADMIUM by ICP	<0.001	mg/L	09/06/96	BG
01G	CALCIUM by ICP	17	mg/L	09/06/96	BG
01G	CHROMIUM by ICP	<0.005	mg/L	09/06/96	BG
01G	COPPER by ICP	<0.01	mg/L	09/18/96	JLZ
01G	IRON by ICP	<0.05	mg/L	09/18/96	JLZ
01G	LEAD by furnace AA	<0.001	mg/L	09/16/96	BG
01G	MAGNESIUM by ICP	1.0	mg/L	09/06/96	BG
01G	MANGANESE by ICP	<0.01	mg/L	09/06/96	BG
01G	MERCURY by cold vapor AA	<0.0002	mg/L	08/29/96	TM
01G	NICKEL by furnace AA	0.0013	mg/L	09/20/96	BG
01G	POTASSIUM by ICP	0.56	mg/L	09/20/96	BG
01G	SELENIUM by furnace AA	<0.002	mg/L	09/14/96	JLZ
01G	SILVER by flame AA	<0.01	mg/L	09/20/96	TM
01G	SODIUM by ICP	6.3	mg/L	09/16/96	TM
01G	THALLIUM by furnace AA	<0.001	mg/L	09/21/96	JLZ

Subcontracted Results for 02-TEST-819-F

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00

	Analyte	Result	Units	Test Date	Analyst
01P	SUBCONTRACTED TEST	*	*		
01Q	SUBCONTRACTED TEST	*	*		

Commonwealth Analytical

Workorder #9608264

Results for 02-TEST-819-F

Method 504.1 - EDB & DBCP in Water

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00
Extracted on 08/20/96
Analyzed on 08/21/96 by BCS

01E\504	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	106-93-4	1,2-Dibromoethane	ND	0.01
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.01
		1,4-Dichlorobutane	Surrogate % Recovery = 79	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9608264

Results for 02-TEST-819-F

Method 508 - Chlorinated Pesticides

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00
Extracted on 08/21/96
Analyzed on 08/28/96 by BCS

01K\508	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	309-00-2	Aldrin	ND	0.08
	57-74-9	Chlordane	ND	0.18
	60-57-1	Dieldrin	ND	0.01
	72-20-8	Endrin	ND	0.13
	76-44-8	Heptachlor	ND	0.04
	1024-57-3	Heptachlor Epoxide	ND	0.05
	118-74-1	Hexachlorobenzene	ND	0.09
	77-47-4	Hexachlorocyclopentadiene	ND	0.05
	58-89-9	Lindane	ND	0.03
	72-43-5	Methoxychlor	ND	0.1
	1918-16-7	Propachlor	ND	0.14
	8001-35-2	Toxaphene	ND	1
	12674-11-2	Aroclor 1016	ND	0.48
	11104-28-2	Aroclor 1221	ND	0.2
	11141-16-5	Aroclor 1232	ND	0.08
	53469-21-9	Aroclor 1242	ND	0.15
	12672-29-6	Aroclor 1248	ND	0.19
	11097-69-1	Aroclor 1254	ND	0.1
	11096-82-5	Aroclor 1260	ND	0.17
		Pentachloronitrobenzene	Surrogate % Recovery = 70	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9608264

Results for 02-TEST-819-F

Method 515.1 - Chlorinated Acids

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00
Extracted on 08/29/96
Analyzed on 09/03/96 by BCS

01L\515SDW	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	94-75-7	2,4-D	ND	1
	75-99-0	Dalapon	ND	1
	1918-00-9	Dicamba	ND	0.08
	88-85-7	Dinoseb	ND	0.5
	87-86-5	Pentachlorophenol	ND	0.3
	1918-02-1	Picloram	ND	1
	93-72-1	2,4,5-TP	ND	0.7
		2,4-Dichlorophenyl acetic acidSurrogate % Recovery = 98		

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9608264

Results for 02-TEST-819-F

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00
Analyzed on 08/22/96 by MAB

011\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	71-43-2	Benzene	ND	0.5
	108-86-1	Bromobenzene	ND	0.5
	74-97-5	Bromochloromethane	ND	0.5
	75-27-4	Bromodichloromethane	ND	0.5
	75-25-2	Bromoform	ND	0.5
	74-83-9	Bromomethane	ND	0.5
	104-51-8	n-Butylbenzene	ND	0.5
	135-98-8	sec-Butylbenzene	ND	0.5
	98-06-6	tert-Butylbenzene	ND	0.5
	56-23-5	Carbon tetrachloride	ND	0.5
	108-90-7	Chlorobenzene	ND	0.5
	75-00-3	Chloroethane	ND	0.5
	67-66-3	Chloroform	1.5	0.5
	74-87-3	Chloromethane	ND	0.5
	95-49-8	2-Chlorotoluene	ND	0.5
	106-43-4	4-Chlorotoluene	ND	0.5
	124-48-1	Dibromochloromethane	ND	0.5
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.5
	106-93-4	1,2-Dibromoethane	ND	0.5
	74-95-3	Dibromomethane	ND	0.5
	95-50-1	1,2-Dichlorobenzene	ND	0.5
	541-73-1	1,3-Dichlorobenzene	ND	0.5
	106-46-7	1,4-Dichlorobenzene	ND	0.5
	75-71-8	Dichlorodifluoromethane	ND	0.5
	75-34-3	1,1-Dichloroethane	ND	0.5
	107-06-2	1,2-Dichloroethane	ND	0.5
	75-35-4	1,1-Dichloroethene	ND	0.5
	156-59-4	cis-1,2-Dichloroethene	ND	0.5
	156-60-5	trans-1,2-Dichloroethene	ND	0.5
	78-87-5	1,2-Dichloropropane	ND	0.5
	142-28-9	1,3-Dichloropropane	ND	0.5
	590-20-7	2,2-Dichloropropane	*ND	0.5
	563-58-6	1,1-Dichloropropene	ND	0.5
	10061-01-5	cis-1,3-Dichloropropene	ND	0.5
	10061-02-6	trans-1,3-Dichloropropene	ND	0.5
	100-41-4	Ethylbenzene	ND	0.5
	87-68-3	Hexachlorobutadiene	ND	0.5
	98-82-8	Isopropylbenzene	ND	0.5
	99-87-6	4-Isopropyltoluene	ND	0.5
	75-09-2	Methylene chloride	ND	0.5
	91-20-3	Naphthalene	ND	0.5
	103-65-1	n-Propylbenzene	ND	0.5
	100-42-5	Styrene	ND	0.5
	630-20-6	1,1,1,2-Tetrachloroethane	ND	0.5
	79-34-5	1,1,2,2-Tetrachloroethane	ND	0.5
	127-18-4	Tetrachloroethene	ND	0.5
	108-88-3	Toluene	ND	0.5

continued

Commonwealth Analytical

Workorder #9608264

Results for 02-TEST-819-F

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00
Analyzed on 08/22/96 by MAB

011\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	87-61-6	1,2,3-Trichlorobenzene	ND	0.5
	120-82-1	1,2,4-Trichlorobenzene	ND	0.5
	71-55-6	1,1,1-Trichloroethane	ND	0.5
	79-00-5	1,1,2-Trichloroethane	ND	0.5
	79-01-6	Trichloroethene	ND	0.5
	75-69-4	Trichlorofluoromethane	ND	0.5
	96-18-4	1,2,3-Trichloropropane	ND	0.5
	95-63-6	1,2,4-Trimethylbenzene	ND	0.5
	108-67-8	1,3,5-Trimethylbenzene	ND	0.5
	75-01-4	Vinyl chloride	ND	0.5
	95-47-6	o-Xylene	ND	0.5
	108-38-3	m-Xylene	ND	0.5
	106-42-3	p-Xylene	ND	0.5
		4-Bromofluorobenzene	Surrogate % Recovery = 80	
		1,2-Dichlorobenzene-d4	Surrogate % Recovery = **76	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Test Comments

*Result is reported as an estimate.
**Outside QC limits.

Commonwealth Analytical

Workorder #9608264

Results for 02-TEST-819-F

Method 525.2 - Organic Compounds in Drinking Water

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00
Extracted on 08/26/96
Analyzed on 09/07/96 by CJW

01M\525SDW	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	50-32-8	Benzo[a]pyrene	ND	0.1
	103-23-1	Bis(2-ethylhexyl)adipate	ND	0.6
	117-81-7	Bis(2-ethylhexyl)phthalate	ND	3
	77-47-4	Hexachlorocyclopentadiene	ND	1
		Perylene-d12	Surrogate % Recovery = 89	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9608264

Results for 02-TEST-819-F

Method 531.1 - Carbamates - Subcontracted

Matrix:GROUNDWATER

Collected on 08/19/96 09:00:00
Extracted on 08/27/96
Analyzed on 08/27/96

01N\531SUB	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	116-06-3	Aldicarb	ND	0.1
	1646-88-4	Aldicarb sulfone	ND	0.1
	1646-87-3	Aldicarb sulfoxide	ND	0.3
	1563-66-2	Carbofuran	ND	0.2
	16655-82-6	3-Hydroxycarbofuran	ND	0.2
	16752-77-5	Methomyl	ND	0.1
	23135-22-0	Oxamyl	ND	0.4
	63-25-2	Carbaryl	ND	0.07

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Workorder #9608264

Results for TRIP BLANK

Method 504.1 - EDB & DBCP in Water

Matrix:LAB_WATER

Collected on 08/14/96 13:45:00
Extracted on 08/20/96
Analyzed on 08/21/96 by BCS

02B\504	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	106-93-4	1,2-Dibromoethane	ND	0.01
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.01
		1,4-Dichlorobutane Surrogate % Recovery = 96		

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Commonwealth Analytical

Results for TRIP BLANK

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:LAB_WATER

Collected on 08/14/96 13:45:00
Analyzed on 08/22/96 by MAB

02A\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	71-43-2	Benzene	ND	0.5
	108-86-1	Bromobenzene	ND	0.5
	74-97-5	Bromochloromethane	ND	0.5
	75-27-4	Bromodichloromethane	ND	0.5
	75-25-2	Bromoform	ND	0.5
	74-83-9	Bromomethane	ND	0.5
	104-51-8	n-Butylbenzene	ND	0.5
	135-98-8	sec-Butylbenzene	ND	0.5
	98-06-6	tert-Butylbenzene	ND	0.5
	56-23-5	Carbon tetrachloride	ND	0.5
	108-90-7	Chlorobenzene	ND	0.5
	75-00-3	Chloroethane	ND	0.5
	67-66-3	Chloroform	ND	0.5
	74-87-3	Chloromethane	ND	0.5
	95-49-8	2-Chlorotoluene	ND	0.5
	106-43-4	4-Chlorotoluene	ND	0.5
	124-48-1	Dibromochloromethane	ND	0.5
	96-12-8	1,2-Dibromo-3-chloropropane	ND	0.5
	106-93-4	1,2-Dibromoethane	ND	0.5
	74-95-3	Dibromomethane	ND	0.5
	95-50-1	1,2-Dichlorobenzene	ND	0.5
	541-73-1	1,3-Dichlorobenzene	ND	0.5
	106-46-7	1,4-Dichlorobenzene	ND	0.5
	75-71-8	Dichlorodifluoromethane	ND	0.5
	75-34-3	1,1-Dichloroethane	ND	0.5
	107-06-2	1,2-Dichloroethane	ND	0.5
	75-35-4	1,1-Dichloroethene	ND	0.5
	156-59-4	cis-1,2-Dichloroethene	ND	0.5
	156-60-5	trans-1,2-Dichloroethene	ND	0.5
	78-87-5	1,2-Dichloropropane	ND	0.5
	142-28-9	1,3-Dichloropropane	ND	0.5
	590-20-7	2,2-Dichloropropane	*ND	0.5
	563-58-6	1,1-Dichloropropene	ND	0.5
	10061-01-5	cis-1,3-Dichloropropene	ND	0.5
	10061-02-6	trans-1,3-Dichloropropene	ND	0.5
	100-41-4	Ethylbenzene	ND	0.5
	87-68-3	Hexachlorobutadiene	ND	0.5
	98-82-8	Isopropylbenzene	ND	0.5
	99-87-6	4-Isopropyltoluene	ND	0.5
	75-09-2	Methylene chloride	ND	0.5
	91-20-3	Naphthalene	ND	0.5
	103-65-1	n-Propylbenzene	ND	0.5
	100-42-5	Styrene	ND	0.5
	630-20-6	1,1,1,2-Tetrachloroethane	ND	0.5
	79-34-5	1,1,2,2-Tetrachloroethane	ND	0.5
	127-18-4	Tetrachloroethene	ND	0.5
	108-88-3	Toluene	ND	0.5

continued

Commonwealth Analytical

Workorder #9608264

Results for TRIP BLANK

Method 524.2 - Purgeable Organic Compounds in Water

Matrix:LAB_WATER

Collected on 08/14/96 13:45:00
Analyzed on 08/22/96 by MAB

02A\524	CAS #	Compound	Result (ug/L)	Method Detection Limit (ug/L)
	87-61-6	1,2,3-Trichlorobenzene	ND	0.5
	120-82-1	1,2,4-Trichlorobenzene	ND	0.5
	71-55-6	1,1,1-Trichloroethane	ND	0.5
	79-00-5	1,1,2-Trichloroethane	ND	0.5
	79-01-6	Trichloroethene	ND	0.5
	75-69-4	Trichlorofluoromethane	ND	0.5
	96-18-4	1,2,3-Trichloropropane	ND	0.5
	95-63-6	1,2,4-Trimethylbenzene	ND	0.5
	108-67-8	1,3,5-Trimethylbenzene	ND	0.5
	75-01-4	Vinyl chloride	ND	0.5
	95-47-6	o-Xylene	ND	0.5
	108-38-3	m-Xylene	ND	0.5
	106-42-3	p-Xylene	ND	0.5
		4-Bromofluorobenzene	Surrogate % Recovery = 82	
		1,2-Dichlorobenzene-d4	Surrogate % Recovery = 80	

Notes and Definitions for This Test

ND = The compound was analyzed for but was not detected.
NA = The compound was not analyzed.
BQL = The compound was detected below the minimum method detection limit.
B = The compound was also detected in the blank.

Test Comments

*Result is reported as an estimate.

Workorder Text

Radionuclide Analyses

Sample ID: 02-TEST-819-F

PARAMETER	RESULTS(pCi/L)	LOWER LEVEL OF DETECTION	DATE ANALYZED
Gross Alpha (1)	ND	0.9	08/23/96
Gross Beta (1)	ND	1.6	08/30/96
Gamma (2)			
Bismuth 214 HPGe gamma	81.4	NA	09/03/96
Potassium 40 HPGe gamma	188	NA	09/03/96
Lead 214 HPGe gamma	59.1	NA	09/03/96
Radium 226 (3)	ND	0.4	09/06/96
Radium 228 (4)	ND	1.3	09/05/96
Tritium (5)	ND	148	08/30/96
Strontium (6)	ND	2.2	08/30/96
Radon (7)	1380	266	08/23/96

Workorder Text

Nitroaromatics (8)	RESULTS ug/L	PRACTICAL QUANT. LIMIT	DATE ANALYZED
1,3-Dinitrobenzene	<0.30	0.30	08/23/96
HMX	<1.0	1.0	08/23/96
Nitrobenzene	<0.50	0.50	08/23/96
2-Nitrotoluene	<0.25	0.25	08/23/96
3-Nitrotoluene	<0.25	0.25	08/23/96
4-Nitrotoluene	<0.25	0.25	08/23/96
RDX	<0.85	0.85	08/23/96
Tetryl	<1.0	1.0	08/23/96
1,3,5-Trinitrobenzene	<0.45	0.45	08/23/96
2,4,6-Trinitrotoluene	<0.26	0.26	08/23/96
2-Am-4, 6-DNT	<0.26	0.26	08/23/96
4-Am-2, 6-DNT	<0.26	0.26	08/23/96
2,6-Dinitrotoluene	<0.25	0.25	08/23/96
2,4-Dinitrotoluene	<0.26	0.26	08/23/96

Method References:

(1) EPA Method 900.0

(2) EPA Method 901.1

(3) EPA Method 903.1

(4) EPA Method 904.0

(5) EPA Method 906.0

(6) EPA Method 905.0

(7) EPA 600/4-80-032

(8) 8330 Explosives-38019

Test Methodologies

Test: ALKALINITY
Method 310.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ALUMINUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: AMMONIA NITROGEN as N
Method 350.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: ANTIMONY by furnace AA
Method SM 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: ARSENIC by ICP
Method 200.7, Methods for Determination of Metals in Environmental Samples EPA 600/R-94/111, Rev. 4.4, 5/94

Test: BARIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: BERYLLIUM by furnace AA
Method 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: CADMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CALCIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: CHLORIDE
Method 4500Cl B Standard Methods for the Examination of Water and Wastewater, 18TH Edition, 1992.

Test: CHLORINATED ACIDS 515.1
Method 515.1, Methods for the Determinaiton of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Test: CHLORINATED PESTICIDES
Method 508, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Test: CHROMIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: COLOR-APPARENT
Method 2120 B., Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

Test Methodologies

Test: COPPER by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision

Test: CYANIDE, TOTAL
Method SM 4500-CN-C Standard Methods for the Examination of Water and Wastewater, 18th edition 1992

Test: EDB & DBCP in water
Method 504.1, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised 1993).

Test: FLUORIDE
Method 4500-F-B Standard Methods for teh Examination of Water and Wastewater 18th Edition, 1992

Test: HARDNESS
Method 130.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: IRON by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: LEAD by furnace AA
Method 239.2, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MAGNESIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: MANGANESE by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: MERCURY by cold vapor AA
Method SM 3112B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: N-METHYLCARBAMATES 531.1
Method 531.1, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Test: NICKEL by furnace AA
Method 3113B Standard Methods for the Examination of Water and Wastewaters 18th Edition, 1992.

Test: NITRATE as NITROGEN
Method 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition, 1996.

Test: NITRITE, as NITROGEN
Method SM 4500-NO3/F Standard Methods for the Examination of Water and Wastewater 18th Edition 1992.

Test Methodologies

Test: ODOR
Method 140.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: POTASSIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SELENIUM by furnace AA
Method SM 3113B Standard Methods for the Examination of Water and Wastewater 18th Edition, 1992.

Test: SEMI-VOLATILE 525.2
Method 525.2, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised March 1994).

Test: SILVER by flame AA
Method 272.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SODIUM by ICP
Method 200.7, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, 1983 Revision.

Test: SPECIFIC CONDUCTANCE
Method 120.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: SULFATE
Method SM 4500-S04-E, Standard Methods for the Examination of Water & Wastewater, 18th Edition 1992.

Test: THALLIUM by furnace AA
Method 200.9, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79,1983 Revision.

Test: TOTAL COLIFORM BACTERIA
Method 909A, Standard Methods for the Examination of Water and Wastewater, 16TH Edition, 1985.

Test: TOTAL DISSOLVED SOLIDS
Method 160.1, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1983 Revision.

Test: TURBIDITY
Method 180.1, Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, 1983 Revision.

Test: VOLATILES 524.2
Method 524.2, Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December, 1988 (revised JULY, 1991).

Chain of Custody Form

(413)572-3200 fax(413)572-321

Client: Siv. Tech Job#/Proj. Manager: (COLIN)
Address: 245 Summer St Work ID: 051652
Boston MA Contact: (COLIN)
Phone: 508 563 9542 Collected by: (COLIN)

Workorder # 9608264
COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑
48 hr. ☐ 2 wk. ☐ Specify: 2wk

Special Detection Limits?(✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	02TEST.819.F	GW	8.19.96 0700	✓		2	P							✓										1		
						2	P							✓										2		
						2	P							✓										3		
						4	P			✓														4		
						2	P							✓										5		
						2	P			✓																6
						2	G	✓																		7

1. Reg Chem - (turb, TDS, conf, color, odor, alk, Cl)
2. Reg Chem - Metals
3. Reg Chem - F, SO4
4. Reg Chem - NH4, Hard
5. Reg Chem - NO2, NO3
6. 507
7. 508

Relinquished by: 8.19.96 Date: Time: 1200
Relinquished by: Date: Time:
Relinquished by: 8/20/96 Date: Time:
Method of shipment: Via Ted X

Received by: Ken Haworth Date: 8/20/96 Time: 9:15
Received by: K.H Date: Time:
Received by: Date: Time:
Laboratory: CLI

Cooler #: 1A- 3.1C 1B- 3.5C
Temp. @ receipt:
Preservation pH checked
By: KH Date: 8/20/96

cc: KH

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Chain of Custody Form

55 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: [illegible] Job#/Proj. Manager: [illegible]

Address: 345 Dunn St Bldg 31 Work ID: [illegible]

Bronx NY Contact: [illegible]

Phone: 508 563 9572 Collected by: [illegible]

Workorder # [illegible] COC # [illegible]

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☒
48 hr. ☐ 2 wk. ☐ Specify: [illegible]

Special Detection Limits?(✓)
Yes ☐ No ☒
Specify:

Special QA/QC? (✓)
Yes ☐ No ☒
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)
1. TCL Metals
2. Calcium
3. Nitroaromatics
4. 525
5. Nitroaromatics
6. [illegible]
7. [illegible]
8. Cyanide

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	02WEST-BH1	W	[illegible]			2	P		✓																
						2	P	✓																2	
						1	G							✓											5
						2	G	✓																	1
						2	G							✓											3
						2	G	✓																	6
						2	P							✓											7
		V				2	P					✓								8					4
			[illegible]		1																				
						2	P																		

Relinquished by: [illegible] Date: [illegible] Time: [illegible]
Received by: [illegible] Date: [illegible] Time: [illegible]

Relinquished by: [illegible] Date: Time:
Received by: [illegible] Date: Time:

Relinquished by: 9/24/96 Date: Time:
Received by: Date: Time:

Method of shipment: via FedEx
Laboratory: C/A

Cooler #: [illegible]
Temp. @ receipt: [illegible]
Preservation pH checked
By: RW Date: 9/30/96

Chain of Custody Form

53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-321

Client: Stone Webster
Address: 245 Summ St
Boston MA
Phone: 500 5649542

Job#/Proj. Manager: CCollins
Work ID: 0510502
Contact: CCollins
Collected by: CCollins

Workorder # 9608264

COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☑ 5d
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☑
Specify:

Special QA/QC? (✓)
Yes ☐ No ☑
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)
1. 524
2. 504.1
3. radon
4. 531

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container. For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other Methanol	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
*	Trip Blnk	BL	8.1.96 1345	✓		2	G				✓					2										
	↓	↓	↓			2	G				✓					2										
	027EST.819.F	GW	8.1.96 0900			8	G	✓			✓					1										
						8	G	✓			✓					2										
						4	G							✓												3
						4	G	✓					✓													4

Relinquished by: [illegible] Date: 8.1.96 Time: 1200
Received by: New Haven Date: 8-19-96 Time: 9:15

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: 8/20/96 Date: Time:
Received by: Date: Time:

Method of shipment: Via Fed X
Laboratory: CLI

Cooler #: 511 - 1.3°C
745 - 2.5°C
Temp. @ receipt:
Preservation pH checked
By: RK Date: 8/20/96

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COOLER RECEIPT FORM

Contractor Cooler: yes
MRD Cooler #: 1 S/L - #1942
Number of Coolers: 3 74B

Workorder # 9608264

Project Name: 0516502

Date Received: 8/20/96

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-20-96

by (print) Ria Haworth (sign) Ria Haworth

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO
   If yes, enter carrier name & air bill number here: Fed Ex - 3 bills - attached to paperwork
2. Were custody seals on outside of cooler? ..... YES (NO)
   How many & where: _____ seal date: _____ seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO N/A
4. Did you screen samples for radioactivity using the Geiger Counter? ..... YES (NO)
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
9. If required, was enough ice used? ..yes..... Type of ice: bagged ice ..... (YES) NO
10. Have designated person initial here to acknowlege receipt of cooler: RH (date) 8/20/96

B. LOG-IN PHASE: Date samples were logged-in: 8/20/96

by(print) Ria Haworth (sign) Ria Haworth

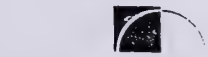
11. Describe type of packing in cooler: None
12. Were all bottles sealed in separate plastic bags? ..... (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO
15. Did all bottle labels agree with custody papers? ..... (YES) NO
16. Were correct containers used for the tests indicated? ..... (YES) NO
17. Were correct preservatives added to samples? ..... (YES) NO
18. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ (YES) NO
20. Was the project manager called and status discussed? ..... (YES) NO
    If YES, give details on the back of this form.
21. Who was called? CFR By whom? Ria Haworth (date) 8/20/96

J:\QC\DOC\COOL

QUALITY ASSESSMENT REPORT
FOR
LABORATORY ANALYSES

CLIENT NAME: STONE & WEBSTER

WORK ORDER #: 9608264

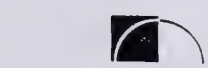


BLANK RESULTS SUMMARY

WORK ORDER NO. 9608264

SAMPLE ID = LB, FB, TB (LB=Laboratory Blank, FB=Field Blank, TB=Trip Blank)

SAMPLE ID	ANALYSIS	DATE OF EXTRACTION	DATE OF ANALYSIS	BLANK MATRIX	ANALYTE DETECTED	CONCENTRATION
LB	524	NONE	08/22/96	WATER	NONE DETECTED	
TB	524	NONE	08/22/96	WATER	NONE DETECTED	
LB	504	08/21/96	08/21/96	WATER	NONE DETECTED	
TB	504	08/21/96	08/21/96	WATER	NONE DETECTED	
LB	508	08/21/96	08/28/96	WATER	NONE DETECTED	
LB	515	08/27/96	09/03/96	WATER	NONE DETECTED	
LB	525	08/26/96	09/07/96	WATER	NONE DETECTED	
LB	ALUMINUM	09/12/96	09/12/96	WATER	NONE DETECTED	
LB	ANTIMONY	08/23/96	09/13/96	WATER	NONE DETECTED	
LB	ARSENIC	08/23/96	09/06/96	WATER	NONE DETECTED	
LB	BARIUM	08/23/96	09/06/96	WATER	NONE DETECTED	
LB	BERYLLIUM	09/03/96	09/17/96	WATER	NONE DETECTED	
LB	CADMIUM	08/23/96	09/06/96	WATER	NONE DETECTED	
LB	CALCIUM	08/23/96	09/06/96	WATER	NONE DETECTED	
LB	CHROMIUM	08/23/96	09/06/96	WATER	NONE DETECTED	



LB	COPPER	09/13/96	09/18/96	WATER	NONE DETECTED	
LB	IRON	09/13/96	09/18/96	WATER	NONE DETECTED	
LB	LEAD	09/16/96	09/16/96	WATER	NONE DETECTED	
LB	MAGNESIUM	08/23/96	09/06/96	WATER	NONE DETECTED	
LB	MANGANESE	08/23/96	09/06/96	WATER	NONE DETECTED	
	MERCURY	08/28/96	08/29/96	WATER	NONE DETECTED	
LB	NICKEL	09/17/96	09/20/96	WATER	NONE DETECTED	
LB	POTASSIUM	09/17/96	09/20/96	WATER	NONE DETECTED	
LB	SELENIUM	09/07/96	09/14/96	WATER	NONE DETECTED	
LB	SILVER	09/17/96	09/20/96	WATER	NONE DETECTED	
LB	SODIUM	08/23/96	09/16/96	WATER	NONE DETECTED	
LB	THALLIUM	09/17/96	09/20/96	WATER	NONE DETECTED	
LB	CYANIDE	08/21/96	08/23/96	WATER	NONE DETECTED	
LB	FLOURIDE	NONE	08/20/96	WATER	NONE DETECTED	
LB	TOTAL DISSOLVED SOLIDS	NONE	08/26/96	WATER	NONE DETECTED	
LB	NO3	NONE	08/21/96	WATER	NONE DETECTED	
LB	NO2	NONE	08/21/96	WATER	NONE DETECTED	
LB	NH3	NONE	08/21/96	WATER	NONE DETECTED	

LB	SULFATE	NONE	08/21/96	WATER	NONE DETECTED	
LB	HARDNESS	NONE	08/21/96	WATER	NONE DETECTED	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 524

DATE COLLECTED: 08/19/96

WORK ORDER NO.: 9608264

DATE ANALYZED: 08/22/96

SAMPLE IDENTIFICATION: 02-TEST-819-F

SAMPLE RESULT and SPIKE ADDED are in units of µg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS %REC
1,1-DICHLOROETHENE	<1	10	108	91	17*	14	61-145
BENZENE	<1	10	115	106	8	11	76-127
TRICHLOROETHENE	<1	10	112	103	9	14	71-120
TOLUENE	<1	10	110	110	8	13	76-125
CHLOROBENZENE	<1	10	103	103	7	13	75-130

) Outside QC limits

SURROGATE PERCENT RECOVERY RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 524

DATE COLLECTED: 08/19/96

WORK ORDER NO.9608264

DATE ANALYZED: 08/22/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY	
	S1	S2
02-TEST-819-F	76*	80
TRIP BLANK	80	82

(*) Outside QC limits

QC LIMITS

S1 = 1,2-DICHLOROBENZENE d4 80 - 120
S2 = 4-BROMOFLUOROBENZENE 80 - 120

METHOD SPIKE/METHOD SPIKE DUPLICATE RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 504

WORK ORDER NO.: 9608264

DATE COLLECTED: 08/19/96
DATE EXTRACTED: 08/20/96
DATE ANALYZED: 08/21/96

SPIKE SAMPLE: METHOD SPIKE

% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS % REC
EDB	95	NA	NA	20	60-140
DBCP	115	NA	NA	20	60-140

NA = Not Available

comment: Due to a preparation error, results for the second method spike and the RPD results are not available.

SURROGATE PERCENT RECOVERY RESULTS
VOLATILE ORGANIC COMPOUNDS

ANALYSIS: 504

DATE COLLECTED: 08/19/96

WORK ORDER NO.9608264

DATE ANALYZED: 08/21/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY	
	1,4-DICHLOROBUTANE	QC LIMITS
02-TEST-819-F	79	70-130
TRIP BLANK	96	70-130

METHOD SPIKE/METHOD SPIKE DUPLICATE RESULTS
508

ANALYSIS: 508

DATE COLLECTED: 08/19/96
DATE EXTRACTED: 08/21/96
DATE ANALYZED: 08/28/96

WORK ORDER NO.: 9608264

SAMPLE IDENTIFICATION: 02-TEST-819-F

SAMPLE RESULT and SPIKE ADDED are in units of µg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS %REC
HEXACHLORO-CYCLOPENTADIENE	<0.05	1	62	57	8	34	30-85
PROPACHLOR	<0.14	1	118	114	3	14	73-103
HEXACHLOROBENZENE	<0.09	1	87	86	1	22	57-157
LINDANE	<0.03	1	102	105	3	17	68-128
HEPTACHLOR	<0.04	1	98	91	7	30	56-116
ALDRIN	<0.08	1	92	94	2	20	56-116
HEPTACHLOR EPOXIDE	<0.05	1	107	103	4	19	57-117
DIELDRIN	<0.01	1	110	103	7	25	57-117
ENDRIN	<0.13	1	141	130	7	28	58-118
METHOXYCHLOR	<0.1	1	175	121	36	51	75-135

SURROGATE PERCENT RECOVERY RESULTS
508

ANALYSIS: 508

WORK ORDER NO.9608264

DATE COLLECTED: 08/19/96
DATE EXTRACTED: 08/21/96
DATE ANALYZED: 08/28/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

	SURROGATE % RECOVERY
SAMPLE ID	S1
02-TEST-819-F	70

	QC LIMITS
S1 = PENTACHLORONITROBENZENE	70-130

METHOD SPIKE/METHOD SPIKE DUPLICATE RESULTS
PESTICIDES

ANALYSIS: 515 DATE COLLECTED: 08/19/96 DATE EXTRACTED: 08/27/96

WORK ORDER NO.: 9608264 DATE ANALYZED: 09/03/96

SAMPLE IDENTIFICATION: METHOD SPIKE

SAMPLE RESULTS and SPIKE ADDED are in units of µg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS % REC
DALAPON	<1	2.0	109	58	61*	20	40-160
DICAMBA	<0.08	2.0	86	43	67*	26	39-231
2,4-D	<1	2.0	55	23*	82*	24	42-214
PENTACHLOROPHENOL	<0.3	2.0	75	34*	75*	23	37-223
2,4,5-TP	<0.7	2.0	66	32*	65*	22	42-226
DINOSEB	<0.5	2.0	40	20	66*	36	DL-85
PICLORAM	<1	2.0	57	17*	108*	26	44-138

NA = Not Available
comment: Due to prep error, most of the accuracy criteria for the second method spike was not met. Due to this, the precision criteria was also not met. The Laboratory Fortified Blank for these compounds met QC criteria.

SURROGATE PERCENT RECOVERY RESULTS
PESTICIDES

ANALYSIS: 515 DATE COLLECTED: 08/19/96 DATE EXTRACTED: 08/27/96

WORK ORDER: 9608264 DATE ANALYZED: 09/03/96

SURROGATE % RECOVERY and QC LIMITS are in units of percent

SAMPLE ID	SURROGATE % RECOVERY S1
02-TEST-819-F	98

QC LIMITS

S1 = 2,4-DICHLOROPHENYL ACETIC ACID 70-130

METHOD SPIKE/METHOD SPIKE DUPLICATE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

ANALYSIS: 525

DATE COLLECTED: 08/19/96
DATE EXTRACTED: 08/26/96
DATE ANALYZED: 09/07/96

WORK ORDER NO. 9608264

SAMPLE IDENTIFICATION: METHOD SPIKE

SAMPLE RESULT and SPIKE ADDED are in units of μg/L.
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD	QC LIMITS RPD	QC LIMITS % REC
HEXACHLOROCYCLOPENTADIENE	<1	20	21	23	9	20	70-130
BIS(2-ETHYLHEXYL)ADIPATE	<0.6	20	60	59	2	23	70-130
BIS(2-ETHYLHEXYL)PHTHALATE	<3	20	65	60	7	23	70-130
BENZO(A)PYRENE	<0.1	20	55	53	3	29	70-130

SURROGATE PERCENT RECOVERY RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

ANALYSIS: 525

DATE COLLECTED: 08/19/96
DATE EXTRACTED: 08/26/96
DATE ANALYZED: 09/07/96

WORK ORDER NO. 9608264

SURROGATE % RECOVERY and QC LIMITS are in units of percent

	BASE/NEUTRAL
SAMPLE ID	S1
02-TEST-819-F	89

	QC LIMITS
ASE/NEUTRAL	
S1 = PERYLENE-d12	70-130

MATRIX SPIKE /MATRIX SPIKE DUPLICATE RESULTS
METALS

WORK ORDER NO. 9608264
DATE COLLECTED: 08/19/96
SAMPLE IDENTIFICATION:02-TEST-819-F, 9608359-01[1], 01-TEST-911-F[2], 9609184-06[3]
SAMPLE RESULT and SPIKE ADDED are in units of mg/L,
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE EXTRACTED	DATE ANALYZED	SAMPLE RESULT	SPIKE ADDED	% RECOVERY	% RECOVERY	RPD
ALUMINUM (I)	09/12/96	09/12/96	<0.05	0.5	102	98	4
ANTIMONY (G)	08/23/96	09/13/96	<0.003	0.55	116	113	2
ARSENIC (I)	08/23/96	09/06/96	<0.005	0.25	96	95	2
BARIUM (I)	08/23/96	09/06/96	<0.01	0.25	100	98	1
[1]BERYLLIUM (G)	09/03/96	09/17/96	<0.0003	0.005	106	106	1
CADMIUM (I)	08/23/96	09/06/96	<0.001	0.25	108	106	1
CALCIUM (I)	08/23/96	09/06/96	17	10	96	94	1
CHROMIUM (I)	08/23/96	09/06/96	<0.005	0.25	102	100	2
[2]COPPER (I)	09/13/96	09/18/96	<0.01	1	97	97	0
[2]IRON (I)	09/13/96	09/18/96	<0.05	1	110	113	3
LEAD (I)	09/16/96	09/16/96	<0.001	0.05	93	94	1
MAGNESIUM (I)	08/23/96	09/06/96	1.0	10	99	97	1
MANGANESE (I)	08/23/96	09/06/96	<0.01	0.25	98	96	2
MERCURY (CV)	08/28/96	08/29/96	<0.0002	0.005	102	99	3
[1]NICKEL (G)	09/17/96	09/20/96	0.0014	0.05	99	96	3
[3]POTASSIUM (I)	09/17/96	09/20/96	2.0	20	103	100	2
SELENIUM (G)	09/07/96	09/14/96	<0.002	0.05	101	100	1
[3]SILVER (F)	09/17/96	09/20/96	<0.01	0.1	104	105	1
SODIUM (I)	08/23/96	09/16/96	6.3	5	74	74	0
[3]THALLIUM (G)	09/17/96	09/20/96	<0.001	0.1	93	101	8

QC LIMITS FOR %RECOVERY = (I) 70-130 (G/F) 85-115 (CV) 75-125
QC LIMITS FOR RPD = 20
comment:

(I) = ICP
(G) = Graphite Furnace AA
(F) = Flame AA
(CV) = Cold Vapor

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.: 9608264 DATE COLLECTED: 08/19/96

SAMPLE IDENTIFICATION: 02-TEST-819-F

UNITS for SAMPLE RESULT and SPIKE ADDED are given below
% RECOVERY and RELATIVE PERCENT DIFFERENCE (RPD) are in units of percent

ANALYTE	DATE ANALYZED	UNITS	SAMPLE RESULT	SPIKE ADDED	% REC	% REC	RPD	QC LIMITS RPD	QC LIMITS %REC
AMMONIA	08/21/96	mg/L	<0.02	0.50	88	86	2	10	77-115
CYANIDE	08/23/96	mg/L	<0.01	0.21	99	92	7	15	72-112
FLOURIDE	08/20/96	mg/L	0.12	4.0	100	100	0	36	15-123
HARDNESS	08/21/96	mg/L	12	40	92	98	4	20	74-127
NITRATE	08/21/96	mg/L	<0.02	0.50	102	108	6	15	76-129
NITRITE	08/21/96	mg/L	<0.01	0.67	100	100	0	10	92-113
SULFATE	08/21/96	mg/L	<5	10	142	134	6	10	54-150
CHLORIDE	08/21/96	mg/L	5.5	20	112	112	0	10	91-121

SAMPLE /SAMPLE DUPLICATE RESULTS
GENERAL CHEMISTRY

WORK ORDER NO.:9608264 DATE COLLECTED: 08/19/96

SAMPLE IDENTIFICATION: 02-TEST-819-F

UNITS for SAMPLE RESULT and SAMPLE DUPLICATE are given below
RELATIVE PERCENT DIFFERENCE (RPD) is in units of percent

TEST CODE	DATE ANALYZED	UNITS	SAMPLE RESULT	SAMPLE DUPLICATE	RPD	QC LIMITS RPD
ALKALINITY	08/27/96	mg/L	3.5	3.5	0	10
TOTAL DISSOLVED SOLIDS	08/26/96	mg/L	43	36	18*	15
SPECIFIC CONDUCTANCE	08/20/96	UMHOS	51	51	0	5
TURBIDITY	08/20/96	NTU	0.48	0.47	2	7

(*) Outside QC limits

LOCKHEED MARTIN

Lockheed Analytical Services

COMMONWEALTH ANALYTICAL

ANALYTICAL DATA REPORT

FOR

EXPLOSIVES

LOG-IN NUMBER:	L7729
QUOTATION NUMBER:	P613656
DOCUMENT FILE NUMBER:	0821702

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

LOCKHEED MARTIN

August 27, 1996

Ms. Christine Reynolds
Commonwealth Analytical
53 Southhampton Road
Westfield, MA 01085

RE: Log-in No.: L7729
Quotation No.: P613656
Document File No.: 0821702

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 21 August 1996.

The temperature of the cooler upon receipt was 15°C. The sample containers coincided with the chain-of-custody documentation. All sample containers were received intact. Samples were received in time to meet the analytical holding time requirements. All discrepancies (if applicable) identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records. (See attached Sample Receiving Checklist for details).

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Mary B. Ford, Client Services Manager, at (702) 361-3955, extension 326.

Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

Sincerely,

Mary B. Ford 8/28/96

Mary B. Ford
Client Services Manager

cc: Client Services
Document Control

CASE NARRATIVE
ORGANIC ANALYSES

Analytical Method 8330 Explosives

Analytical Batch 082396-8330-HPLCA-1

NOTE: Client sample 9608264-01Q (L7729-1) was the native sample used for the Matrix Spike (40540MS) and Matrix Spike Duplicate (40540MSD). The 40540MS and 40540MSD were analyzed using the duplicate sample 9608264-01Q (L7729-2).

The samples were extracted within the required holding time on August 21, 1996 and analyzed within the required holding time on August 23, 1996. All initial and continuing calibrations met criteria. There were no target compounds detected in the Method Blank (40540MB). The surrogate recovery of 4-Nitroaniline was within QC limits. Compound recoveries were within QC limits in the 40540MS, 40540MSD, and Laboratory Control Sample (40540LCS). The Relative Percent Differences (RPDs) between the 40540MS and 40540MSD recoveries were within QC limits.

Prepared By
Patricia Lonergan

August 27, 1996

Lockheed Analytical Services
DATA QUALIFIERS FOR ORGANIC ANALYSES

[Revised 02/09/1996]

For Use On The Analytical Data Reporting Forms	
A	*For CLP analyses Only* -- The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL).
C	Constituent confirmed by GC/MS analysis. *[pesticide/PCB analyses only]*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to surrogates being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* -- (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(For CLP Reporting Only)***.
N	***For CLP Reporting Only*** -- Tentatively identified constituents (TICs) identified based on mass spectral library search.
NQ	Analyte detected, but Not Quantified; see result from subsequent analysis
P	***For CLP Reporting Only*** -- The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only]*.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an "*as received*" basis. A value in the % moisture cell indicates that data are reported based on a "*dry weight*" basis.
For Use On The QC Data Reporting Forms	
*	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC Summary Form.

SAMPLE RECEIPT LOG-IN
AND
CHAIN OF CUSTODY

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 21 1996, 02:17 pm

Login Number: L7729
Account: 702 COMMONWEALTH ANALYTICAL
Project: 8330 RUSH

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L7729-1	9608264-01Q	19-AUG-96	21-AUG-96		26-AUG-9
temp 15					
Location: RFG01-01C					
Water 1 S 8330	EXPLOSIVES	Hold:26-AUG-96			
L7729-2	9608264-01Q	19-AUG-96	21-AUG-96		26-AUG-9
temp 15					
Location: RFG01-01C					
L7729-3	REPORT TYPE	21-AUG-96	21-AUG-96		26-AUG-9
Location:					
Water 1 S FORD					
Water 1 S GC3A					

Signature: [signature]

Date: 8-21-96

08170

L7729

Chain of Custody Form

Commonwealth Analytical
53 Southampton Rd. Westfield, MA 010
(413)572-3200 fax(413)572-3215

Client: Commonwealth Analytical Job#/Proj. Manager:

Address: 53 Southampton Rd Work ID:

Westfield, MA 01085 Contact:

Phone: (413) 567-3200 Collected by:

Workorder #

COC #

Shaded areas for office use

Requested Turn Around Time (✓)
24 hr. ☐ 1 wk. ☐ Other ☐
48 hr. ☐ 2 wk. ☐ Specify:

Special Detection Limits?(✓)
Yes ☐ No ☐
Specify:

Special QA/QC? (✓)
Yes ☐ No ☐
Specify:

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments (Special Instructions)
(1) Nitro Aromatics
QC please.

Sample Type Codes
WW-Wellwater W-Wastewater SW-Surfacewater LW-Labwater
RW-Raw Water GW-Groundwater PW-Public Water SO-Soil
S-Solid SL-Sludge O-Oil A-Air Z-Other

Fraction	Sample ID (Use one line per container; For volatiles-one line/analysis)	Sample Type	Date Time Collected	Grab(✓)	Comp(✓)	# containers	Plastic(P) or Glass(G)	Preservative: Na2S2O3	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH<2	NaOH to pH>12	Other	4° C	pH	Volatiles	Semivolatiles	PCB & Pesticides	Metals	Cyanide	TCLP	Oil & Grease	Total Pet. Hyd.(TPH)	General Chemistry	Bacteriological	Other
	9608264-010	GW	8-19-96 9:00	✓		2	G																			(1) ✓

Relinquished by: Date: 8/20/96 Time: 16:10
Relinquished by: Date: Time:
Relinquished by: Date: Time:
Method of shipment:

Received by: Date: Time:
Received by: Date: Time:
Received by: Date: Time:
Laboratory:

Cooler #:
Temp. @ receipt:
Preservation pH checked

CommonwealthAnalytical

Re: Nitro Aromatics

Date: 8/20/96

Lockheed Env.

975 Kelly Johnson Dr.

Las Vegas, NV 89119

Att. Sample Receipt

We are sending:

☐ report(s) ☐ proposal ☐ other _____ ☐ other documents

as listed below:

No. Copies	Description
2	~~9608264 - BK~~
	9608264 - 019 - Groundwater

☐ for your file

☐ as requested by

☐ revise and/or resubmit

☒ P.O. # 96-08155

Remarks Please analyze for Nitro Aromatics.

Kindly return cooler ASAP Thanks

Copies to:

File

Very truly yours,

CommonwealthAnalytical

Christine Lucente

Westfield Executive Park · 53 Southampton Road · Westfield, MA 01085-5308 · Tel. 413-572-3200 · Fax 413-572-3215
12020 Sunrise Valley Drive · Suite 100 · Reston, VA 22091-3429 · Tel. 703-391-2770 · Fax 703-391-2766
A division of Tighe & Bond, Inc.

C8017

LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number L7729

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensu that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checkli should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent) the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?			X	

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

primary review signature	date	secondary review signature	date
[signature]	8-21-96	[signature]	8-21-96

082170

Lockheed ytical Services
Sample Receiving Checklist

Client Name: Commonwealth Job No. L7729 Cooler ID: N/A

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 15°C contacted Mary Ford about temp. DCW 8-21-96

temperature of temp. blank upon receipt:

	Yes	No	• Comments/Discrepancies
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen		X	not enough Ice around the Samples.
rad survey completed	X		

SAMPLE CONDITION UPON RECEIPT

	Yes	No	• Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace			NA
are samples bi-phasic (if so, indicate sample ID'S):			NA

MISCELLANEOUS ITEMS

	Yes	No	• Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		X	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [signature] 8-21-96

Sent to the client (date/initials): •• Client's signature upon receipt:

Notes: • = contact the appropriate CSR of any discrepancies immediately upon receipt

•• = please review this information and return via facsimile to the appropriate CSR (702) 361-8146

L1483

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
COMMONWEALTH ANALYTICAL

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
9608264-01Q	L7729-1		Water	8330 EXPLOSIVE
REPORT TYPE	L7729-3		Water	FORD
	L7729-3		Water	GC3A

C8317

LOCKHEED ANALYTICAL SERVICES
PRE-INVOICE REPORT (ln04)
Aug 22 1996, 08:27 am

Login Number: L7729
Account: 702 COMMONWEALTH ANALYTICAL
Project: 8330 RUSH

Laboratory Sample Number				Client Sample Number	Collect Date	Receive Date Quote No.	Due Date Price
L7729-1				9608264-01Q	19-AUG-96	21-AUG-96	26-AUG-9
Water	1	S	8330	EXPLOSIVES	Hold:26-AUG-96	Q613656	273
L7729-2				9608264-01Q	19-AUG-96	21-AUG-96	26-AUG-9
L7729-3				REPORT TYPE	21-AUG-96	21-AUG-96	26-AUG-9
Water	1	S	FORD			Q613656	0
Water	1	S	GC3A			Q613656	0
							$273

EPA METHOD 8330 (Explosives)

SAMPLE RESULTS FORMS AND QC SUMMARIES

LOCKHEED ANALYTICAL SERVICES

LOSIVES BY HPLC
0 EXPLOSIVES

Client Sample ID:	9608264-01Q	LAL Sample ID:	L7729-1
Date Collected:	19-AUG-96	Date Received:	21-AUG-96
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
Matrix:	Water	Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	65%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	<0.26	0.26	
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

LOSIVES BY HPLC

Client Sample ID:	Method Blank	LAL Sample ID:	40540MB
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	80%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	<0.30	0.30	
HMX	2691-41-0	<1.0	1.0	
Nitrobenzene	98-95-3	<0.50	0.50	
2-Nitrotoluene	88-72-2	<0.25	0.25	
3-Nitrotoluene	99-08-1	<0.25	0.25	
4-Nitrotoluene	99-99-0	<0.25	0.25	
RDX	121-82-4	<0.85	0.85	
Tetryl	479-45-8	<1.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	<0.45	0.45	
2,4,6-Trinitrotoluene	118-96-7	<0.26	0.26	
2-Am-4,6-DNT	35572-78-2	<0.26	0.26	
4-Am-2,6-DNT	1946-51-0	<0.26	0.26	
2,6-Dinitrotoluene	606-20-2	<0.25	0.25	
2,4-Dinitrotoluene	121-14-2	<0.26	0.26	

LOCKHEED ANALYTICAL SERVICES

KED SAMPLE RESULT
LOSIVES BY HPLC

Client Sample ID:	9608264-01Q	LAL Sample ID:	40540MS
Date Collected:	19-AUG-96	Date Received:	21-AUG-96
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	74%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	1.7	0.30	
HMX	2691-41-0	2.0	1.0	
Nitrobenzene	98-95-3	1.4	0.50	
2-Nitrotoluene	88-72-2	1.8	0.25	
3-Nitrotoluene	99-08-1	1.6	0.25	
4-Nitrotoluene	99-99-0	1.7	0.25	
RDX	121-82-4	2.0	0.85	
Tetryl	479-45-8	1.9	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.9	0.45	
2,4,6-Trinitrotoluene	118-96-7	1.8	0.26	
2-Am-4,6-DNT	35572-78-2	1.8	0.26	
4-Am-2,6-DNT	1946-51-0	1.9	0.26	
2,6-Dinitrotoluene	606-20-2	1.6	0.25	
2,4-Dinitrotoluene	121-14-2	1.7	0.26	

LOCKHEED ANALYTICAL SERVICES

KED SAMPLE RESULT
LOSIVES BY HPLC

Client Sample ID:	9608264-01Q	LAL Sample ID:	40540MSD
Date Collected:	19-AUG-96	Date Received:	21-AUG-96
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	61%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	1.7	0.30	
HMX	2691-41-0	1.9	1.0	
Nitrobenzene	98-95-3	1.5	0.50	
2-Nitrotoluene	88-72-2	1.6	0.25	
3-Nitrotoluene	99-08-1	1.6	0.25	
4-Nitrotoluene	99-99-0	1.6	0.25	
RDX	121-82-4	1.6	0.85	
Tetryl	479-45-8	2.0	1.0	
1,3,5-Trinitrobenzene	99-35-4	1.9	0.45	
2,4,6-Trinitrotoluene	118-96-7	1.8	0.26	
2-Am-4,6-DNT	35572-78-2	1.8	0.26	
4-Am-2,6-DNT	1946-51-0	2.0	0.26	
2,6-Dinitrotoluene	606-20-2	1.6	0.25	
2,4-Dinitrotoluene	121-14-2	1.9	0.26	

LOCKHEED ANALYTICAL SERVICES

:ED SAMPLE RESULT
LOSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	40540LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	77%	40-110

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s
1,3-Dinitrobenzene	99-65-0	1.7	0.30	
HMX	2691-41-0	2.0	1.0	
Nitrobenzene	98-95-3	1.2	0.50	
2-Nitrotoluene	88-72-2	1.2	0.25	
3-Nitrotoluene	99-08-1	0.98	0.25	
4-Nitrotoluene	99-99-0	1.2	0.25	
RDX	121-82-4	2.1	0.85	
Tetryl	479-45-8	1.6	1.0	
1,3,5-Trinitrobenzene	99-35-4	2.1	0.45	
2,4,6-Trinitrotoluene	118-96-7	1.6	0.26	
2-Am-4,6-DNT	35572-78-2	1.9	0.26	
4-Am-2,6-DNT	1946-51-0	2.0	0.26	
2,6-Dinitrotoluene	606-20-2	1.5	0.25	
2,4-Dinitrotoluene	121-14-2	1.8	0.26	

LOCKHEED ANALYTICAL SERVICES

RIX SPIKE DATA SUMMARY
LOSIVES BY HPLC

Client Sample ID:	9608264-01Q	LAL Sample ID:	40540MS
Date Collected:	19-AUG-96	Date Received:	21-AUG-96
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	74%	40-110

Constituent	Spike Added ug/L	Sample Concentration ug/L	MS Concentration ug/L	% Recovery	QC Limits % Recovery
1,3-Dinitrobenzene	2.00	0.000	1.73	87	48-118
HMX	2.00	0.000	1.98	99	43-113
Nitrobenzene	2.00	0.000	1.41	71	33-110
2-Nitrotoluene	2.00	0.000	1.78	89	42-112
3-Nitrotoluene	2.00	0.000	1.57	78	33-110
4-Nitrotoluene	2.00	0.000	1.71	85	36-110
RDX	2.00	0.000	1.96	98	50-120
[illegible]tryl	2.00	0.000	1.91	95	56-126
[illegible],5-Trinitrobenzene	2.00	0.000	1.93	96	49-119
[illegible],6-Trinitrotoluene	2.00	0.000	1.84	92	50-120
2-Am-4,6-DNT	2.00	0.000	1.80	90	60-120
4-Am-2,6-DNT	2.00	0.000	1.94	97	60-120
2,6-Dinitrotoluene	2.00	0.000	1.62	81	49-119
2,4-Dinitrotoluene	2.00	0.000	1.70	85	44-114

LOCKHEED ANALYTICAL SERVICES

IX SPIKE DUPLICATE DATA SUMMARY
LOSIVES BY HPLC

Client Sample ID:	9608264-01Q	LAL Sample ID:	40540MSD
Date Collected:	19-AUG-96	Date Received:	21-AUG-96
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	61%	40-110

Constituent	Spike Added ug/L	MSD Concentration ug/L	% Recovery	RPD	QC Limits RPD	QC Limits % Recovery
1,3-Dinitrobenzene	2.00	1.69	84	2	30	48-11
HMX	2.00	1.85	93	6	30	43-11
Nitrobenzene	2.00	1.46	73	4	30	33-11
2-Nitrotoluene	2.00	1.58	79	12	30	42-11
3-Nitrotoluene	2.00	1.56	78	0	30	33-11
4-Nitrotoluene	2.00	1.57	78	9	30	36-11
RDX	2.00	1.63	81	18	30	50-12
tryl	2.00	2.05	102	7	30	56-12
,5-Trinitrobenzene	2.00	1.91	95	1	30	49-11
,6-Trinitrotoluene	2.00	1.79	89	3	30	50-12
2-Am-4,6-DNT	2.00	1.77	89	1	30	60-12
4-Am-2,6-DNT	2.00	1.98	99	2	30	60-12
2,6-Dinitrotoluene	2.00	1.59	80	2	30	49-11
2,4-Dinitrotoluene	2.00	1.90	95	11	30	44-11

LOCKHEED ANALYTICAL SERVICES

; DATA SUMMARY
'LOSIVES BY HPLC

Client Sample ID:	Lab Ctrl Sample	LAL Sample ID:	40540LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	23-AUG-96	Analytical Batch ID:	082396-8330-HPLCA-1
Date Extracted:	21-AUG-96	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8330 EXPLOSIVES_40540

SURROGATE	RECOVERY	QC Limits
4-Nitroaniline	77%	40-110

Constituent	Spike Added ug/L	LCS Concentration ug/L	LCS % Recovery	QC Limits
1,3-Dinitrobenzene	2.00	1.72	86	48-118
HMX	2.00	2.00	100	43-113
Nitrobenzene	2.00	1.24	62	33-110
2-Nitrotoluene	2.00	1.22	61	42-112
3-Nitrotoluene	2.00	0.976	49	33-110
4-Nitrotoluene	2.00	1.18	59	36-110
RDX	2.00	2.08	104	50-120
Tetryl	2.00	1.62	81	56-126
1,3,5-Trinitrobenzene	2.00	2.09	105	49-119
2,4,6-Trinitrotoluene	2.00	1.61	81	50-120
2-Am-4,6-DNT	2.00	1.85	93	60-120
4-Am-2,6-DNT	2.00	1.96	98	60-120
2,6-Dinitrotoluene	2.00	1.54	77	49-119
2,4-Dinitrotoluene	2.00	1.76	88	44-114

SAMPLE DATA

NO 4175

DL 8/26/96

Lockheed Analytical Services

Data Reprocessed On 08/26/1996 13:57:11

ample Name: L7729-1 Date: 08/23/1996 22:03:13
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d13
Method : d:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

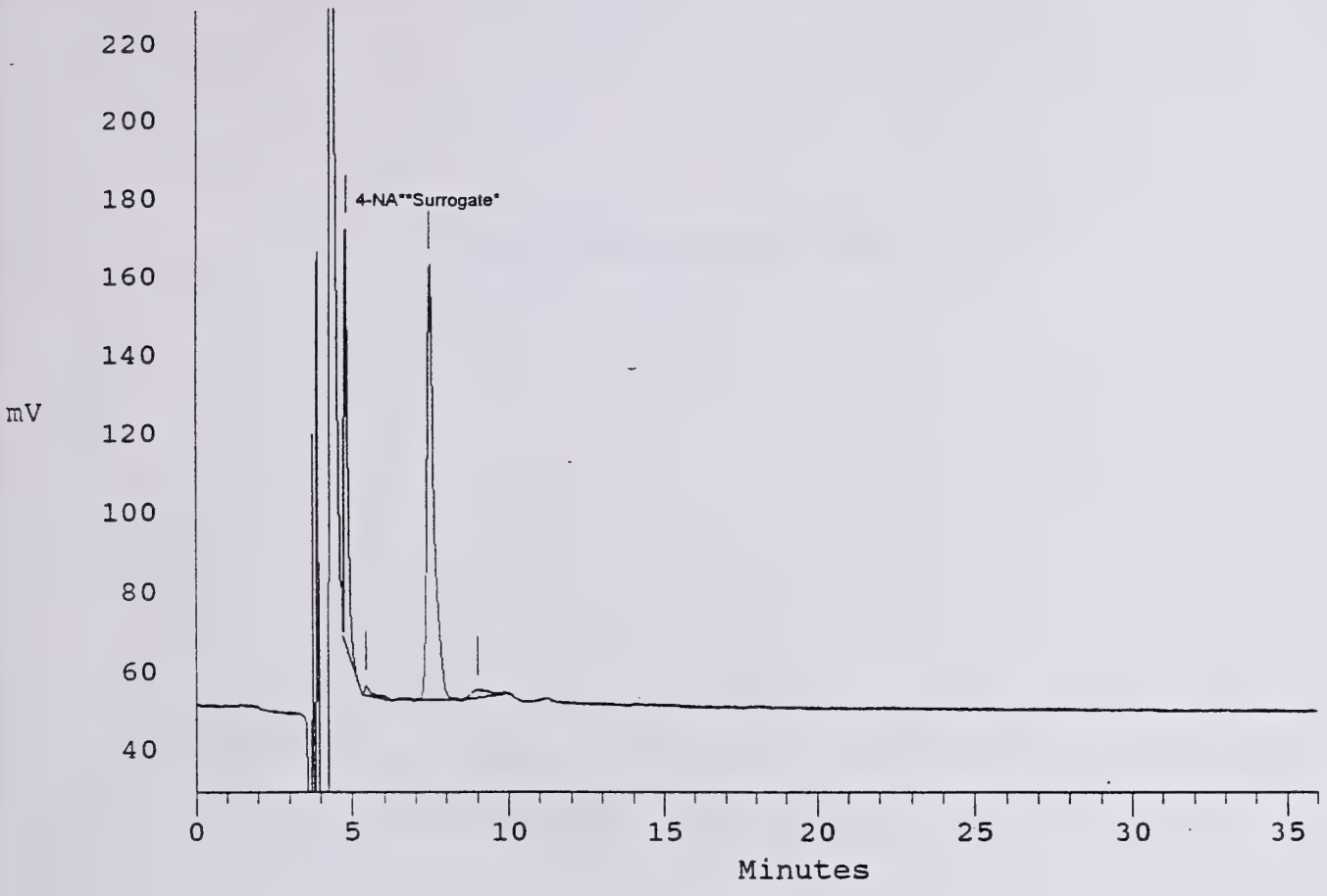
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
3	7.47	1.36	4-NA**Surrogate*	1751001	8.137
0	0.00	0.00	RDX	0	0.000
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
0	0.00	0.00	4-Am-2,6-DNT	0	0.000
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	1751001	8.137

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			815519	0.000
2	5.43			45101	0.000
4	9.00			81495	0.000
			Totals	942115	0.000

File: 08239601.d13 Sample: L7729-1



CALIBRATION DATA

DK 8/26/96

DIONEX METHOD PARAMETERS - 082396.MET

Method Comment: 0.75 ml/min 30 degrees 47/53 water/methyl alcohol, 254nm until 26 minutes then 210 nm
Column ID: ULTRACARB 5 ODS-20 250X4.6 86610
Analyst ID: D. Percy

System Parameters

System Name: GC/PID/ELCD

Number of Detectors	1
Run Time (minutes)	36.00
Sampling Rate (seconds)	0.20
Detector 1 Type	UV/Vis
Detector 1 real time plot scale maximum (mV)	200.000
minimum	0.000
Detector 1 Output Equivalent to 1 Volt (in mV)	1000.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes

Data File Name: C:\DX\DATA\HPLCA\8330\082396\08239601.D05

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	No
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	No
Print Unknown Peaks	Yes
Print Chromatogram	No
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	5.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	5.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Integration Parameters

Starting Peak Width (seconds)	20.0
Peak Threshold	0.800
Peak Area Reject	5000
Area Reject for Reference Peaks	1000

Data Events

Time	Description
0.00	Stop peak detection
4.62	Start peak detection

Calibration Parameters

Number Of Levels for Calibration	6
Force Calibration Curve Through Origin	Yes
Calibration Fit Type	Linear
Replace Or Average Calibrations	Replace
External or Internal Calibration	External
Calculate Unknowns by Area or Height	Area
Default Sample Volume	1.0
Default Dilution Factor	1.0
Default Response Factor for Unknown Peaks	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	ug/g

Component Table -- Last Modified: 12:58 on Mon, 26 Aug 1996

Component # 1 HMX Retention Time 5.63
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.99361E-007

Level	Amount	Area	Height
1	2.00000E-002	30328	2938
2	4.00000E-002	97685	6372
3	1.00000E-001	292736	23047
4	2.50000E-001	650073	44765
5	5.00000E-001	1283990	88693
6	8.00000E-001	1968514	141763

Component # 2 4-NA**Surrogate* Retention Time 7.37
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.71757E-007

Level	Amount	Area	Height
1	8.00000E-002	195857	8253
2	2.00000E-001	476015	17771
3	5.00000E-001	1380714	59244
4	1.26000E+000	3621476	126998
5	2.52000E+000	7012135	243027
6	4.02000E+000	10577732	376051

Component # 3 RDX Retention Time 8.67
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.89441E-007

Level	Amount	Area	Height
1	2.00000E-002	140518	3284
2	4.00000E-002	167048	5315
3	1.00000E-001	378745	15450
4	2.50000E-001	1031358	33303
5	5.00000E-001	1763696	61265
6	8.00000E-001	2664801	94807

Component # 4 135-Trinitrobenze Retention Time 11.80
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.39341E-007

Level	Amount	Area	Height
1	2.00000E-002	116665	4398
2	4.00000E-002	305315	9553
3	1.00000E-001	733799	28684
4	2.50000E-001	1903271	64900
5	5.00000E-001	3758607	126167
6	8.00000E-001	5587015	191904

Component # 5 1,3-Dinitrobenzen Retention Time 14.40
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.05124E-007

Level	Amount	Area	Height
1	2.00000E-002	145481	4591
2	4.00000E-002	370043	10318
3	1.00000E-001	992025	31203
4	2.50000E-001	2515386	71593
5	5.00000E-001	5028709	139399
6	8.00000E-001	7373417	209151

Component # 6 Tetryl Retention Time 15.73
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.17631E-007

Level	Amount	Area	Height
1	2.00000E-002	67827	2535
2	4.00000E-002	178016	5871
3	1.00000E-001	492802	17844
4	2.50000E-001	1219641	43005
5	5.00000E-001	2436648	82725
6	8.00000E-001	3552248	122252

Component # 7 Nitrobenzene Retention Time 16.37
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.47413E-007

Level	Amount	Area	Height
1	2.00000E-002	88283	2630
2	4.00000E-002	254241	6260
3	1.00000E-001	704935	18876
4	2.50000E-001	1777059	44791
5	5.00000E-001	3523148	88031
6	8.00000E-001	5310754	132269

Component # 8 Nitroglycerin Retention Time 17.70
Reference Comp. none Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.06514E-007

Level	Amount	Area	Height
1	1.00000E-001	463937	13918
2	2.00000E-001	941231	25185
3	5.00000E-001	2409304	64923
4	1.00000E+000	4744767	130750
5	1.50000E+000	7342654	198800
6	2.00000E+000	9678829	257911

Component # 9 246-Trinitrotolue Retention Time 18.90
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.08218E-007

Level	Amount	Area	Height
1	2.00000E-002	69918	2175
2	4.00000E-002	187190	5158
3	1.00000E-001	501536	15357
4	2.50000E-001	1275846	35700
5	5.00000E-001	2530805	70575
6	8.00000E-001	3926328	104548

Component # 10 4-Am-2,6-DNT Retention Time 19.63
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.09821E-007

Level	Amount	Area	Height
1	2.00000E-002	76081	2001
2	4.00000E-002	151948	4034
3	1.00000E-001	474449	13629
4	2.50000E-001	1221856	31934
5	5.00000E-001	2507205	61907
6	8.00000E-001	3721360	93617

Component # 11 2-Am-4,6-DNT Retention Time 20.60
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.47527E-007

Level	Amount	Area	Height
1	2.00000E-002	94793	2306
2	4.00000E-002	206504	4668
3	1.00000E-001	633199	15050
4	2.50000E-001	1792819	36634
5	5.00000E-001	3551771	71637
6	8.00000E-001	5288862	108667

Component # 12 2,6-DNT Retention Time 22.34
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.52796E-007

Level	Amount	Area	Height
1	2.00000E-002	54972	1669
2	4.00000E-002	108569	3382
3	1.00000E-001	13379	10095
4	2.50000E-001	[illegible]	30353
5	5.00000E-001	[illegible]	58872
6	8.00000E-001	[illegible]	91037

Component # 13 2,4-DNT Retention Time 22.73
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 1.02735E-007

Level	Amount	Area	Height
1	2.00000E-002	123304	2991
2	4.00000E-002	307921	6622
3	1.00000E-001	808027	19182
4	2.50000E-001	2575049	49855
5	5.00000E-001	5262399	98503
6	8.00000E-001	7482486	146641

Component # 14 2-Nitrotoluene Retention Time 26.80
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.86226E-007

Level	Amount	Area	Height
1	2.00000E-002	49816	1135
2	4.00000E-002	177326	3267
3	1.00000E-001	417658	7261
4	2.50000E-001	919981	17629
5	5.00000E-001	1768299	32833
6	8.00000E-001	2753258	50494

Component # 15 4-Nitrotoluene Retention Time 28.67
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 3.21086E-007

Level	Amount	Area	Height
1	2.00000E-002	35150	872
2	4.00000E-002	110130	2503
3	1.00000E-001	365656	5889
4	2.50000E-001	760389	12555
5	5.00000E-001	1569215	26175
6	8.00000E-001	2482580	39301

Component # 16 3-Nitrotoluene Retention Time 30.87
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.45347E-007

Level	Amount	Area	Height
1	2.00000E-002	48870	1114
2	4.00000E-002	90130	1911
3	1.00000E-001	488391	6802
4	2.50000E-001	1109008	16495
5	5.00000E-001	2016349	30291
6	8.00000E-001	3233588	46353

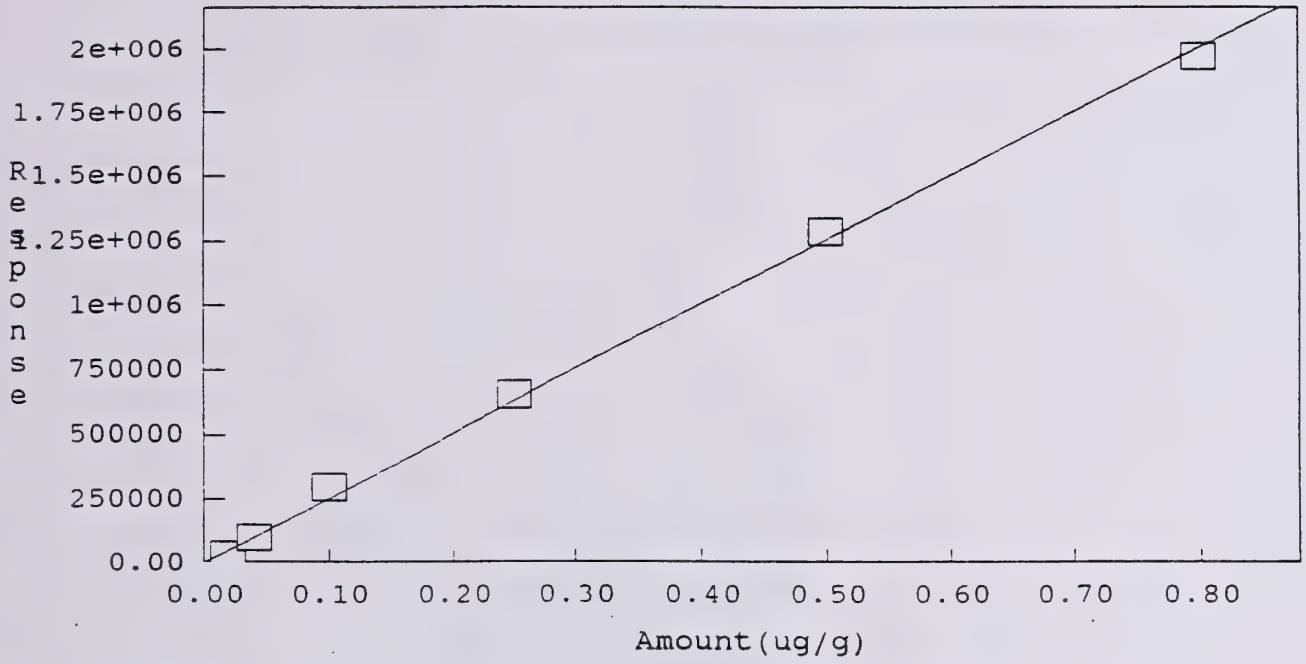
Component # 17 PETN Retention Time 35.47
Reference Comp. none Window Size 0.30 min.
Amount = K0 + K1*Area
K0 = 0.00000E+000
K1 = 2.09455E-007

Level	Amount	Area	Height
1	1.00000E-001	21495	1684
2	2.00000E-001	773776	14512
3	5.00000E-001	2410625	39806
4	1.00000E+000	4621750	77685
5	1.50000E+000	7091584	119650
6	2.00000E+000	9682249	160214

-Method Updated: 12:58 on Mon, 26 Aug 1996

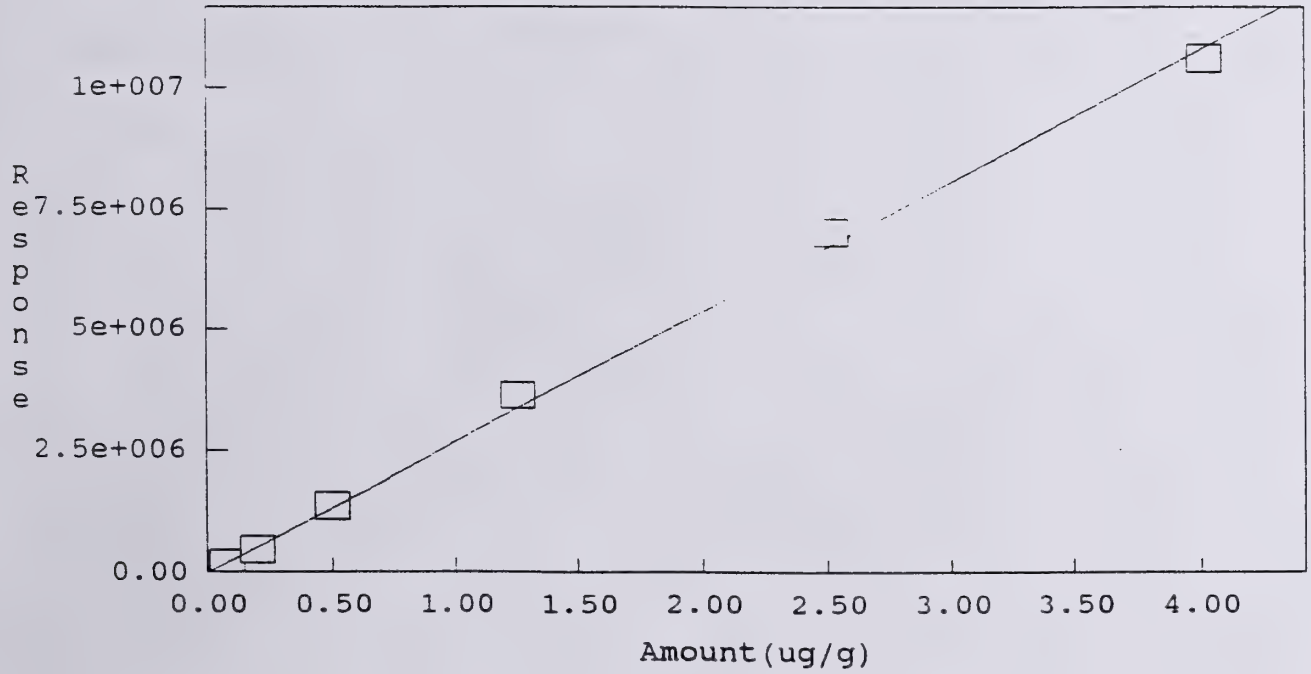
DF 8/26/96

Component: HMX
Fit Type: Linear
r^2 = 0.998331
Amt = Resp * 3.994e-007 + 0
Resp = Amt * 2.504e+006 + 0
Standardization: External
Calibration: Area



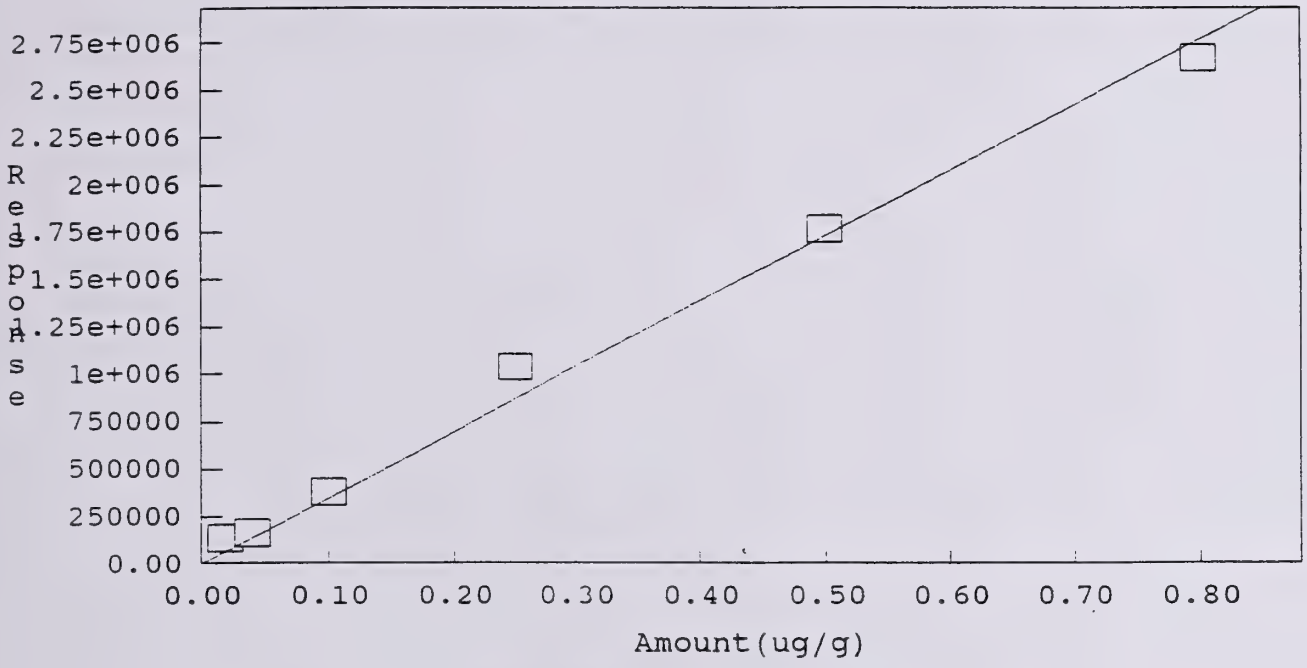
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 4-NA**Surrogate*
Fit Type: Linear
r^2 = 0.998068
Amt = Resp * 3.718e-007 + 0
Resp = Amt * 2.69e+006 + 0
Standardization: External
Calibration: Area



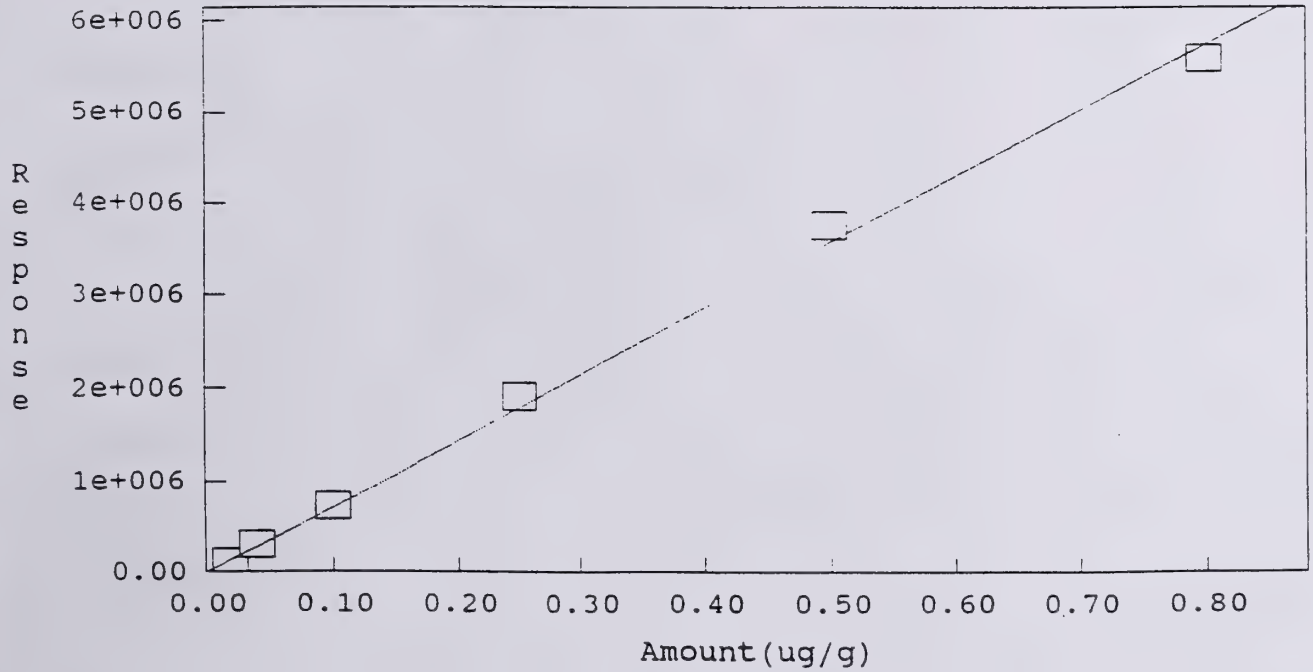
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: RDX
Fit Type: Linear
r^2 = 0.991874
Amt = Resp * 2.894e-007 + 0
Resp = Amt * 3.455e+006 + 0
Standardization: External
Calibration: Area



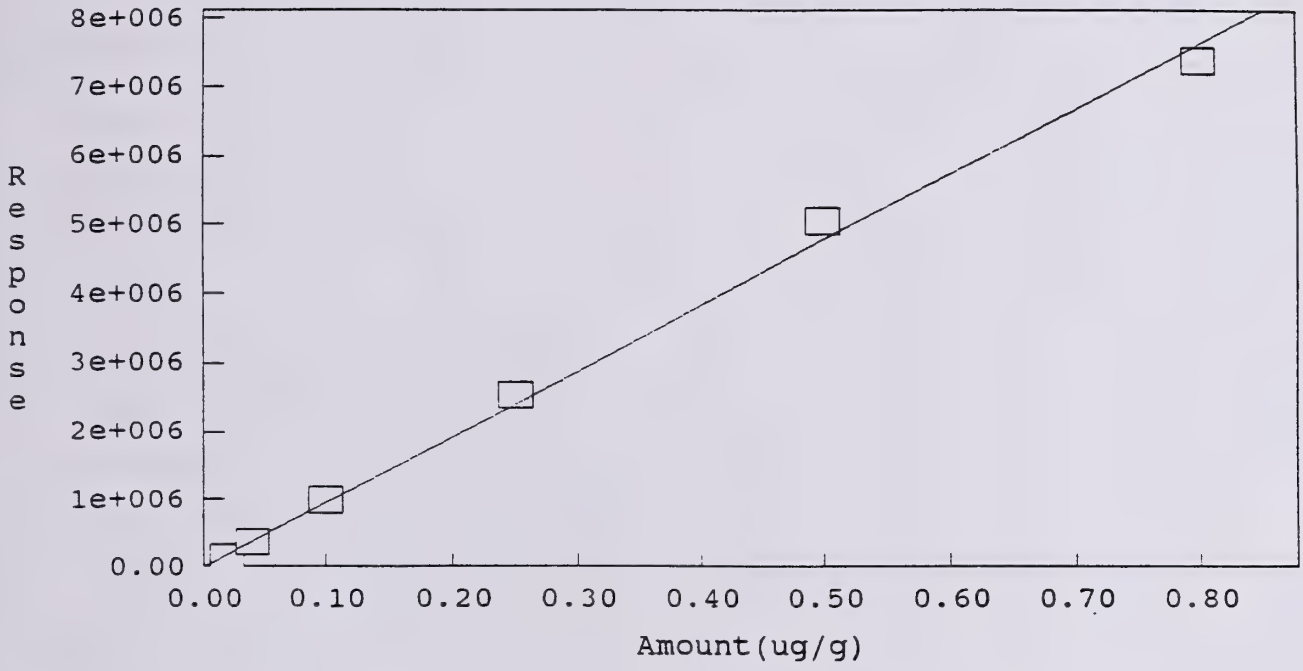
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 135-Trinitrobenze
Fit Type: Linear
r^2 = 0.997313
Amt = Resp * 1.393e-007 + 0
Resp = Amt * 7.177e+006 + 0
Standardization: External
Calibration: Area



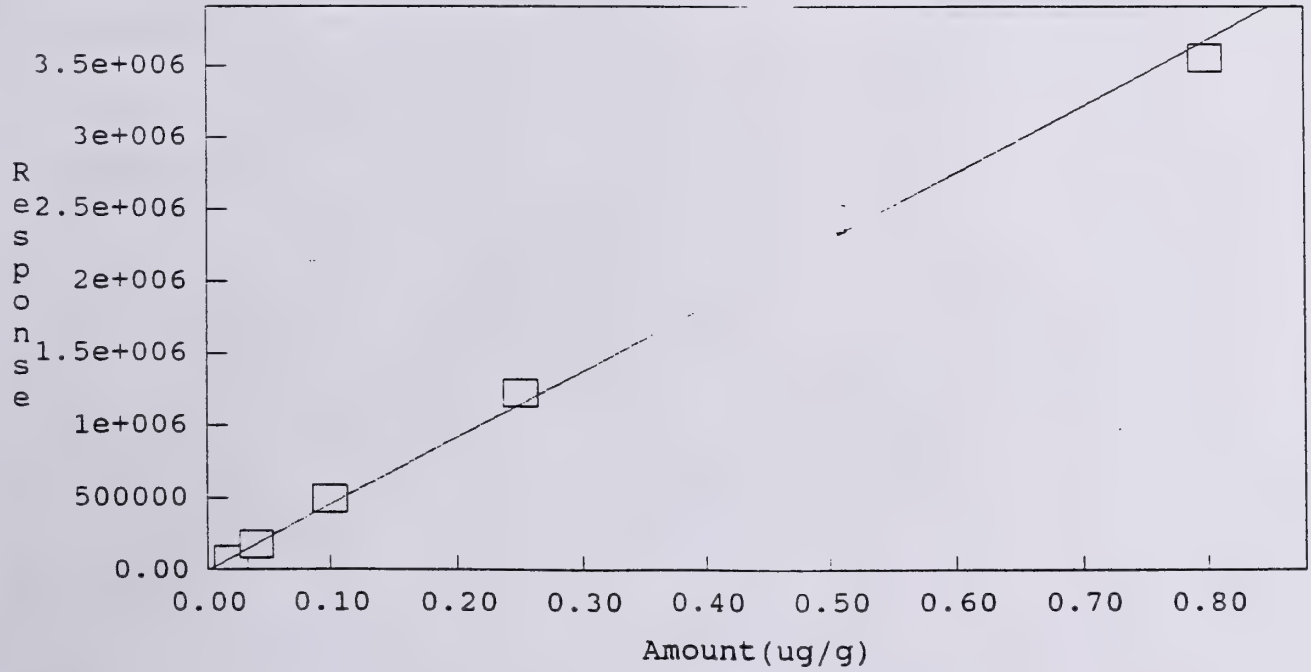
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 1,3-Dinitrobenzen
Fit Type: Linear
r^2 = 0.996460
Amt = Resp * 1.051e-007 + 0
Resp = Amt * 9.513e+006 + 0
Standardization: External
Calibration: Area



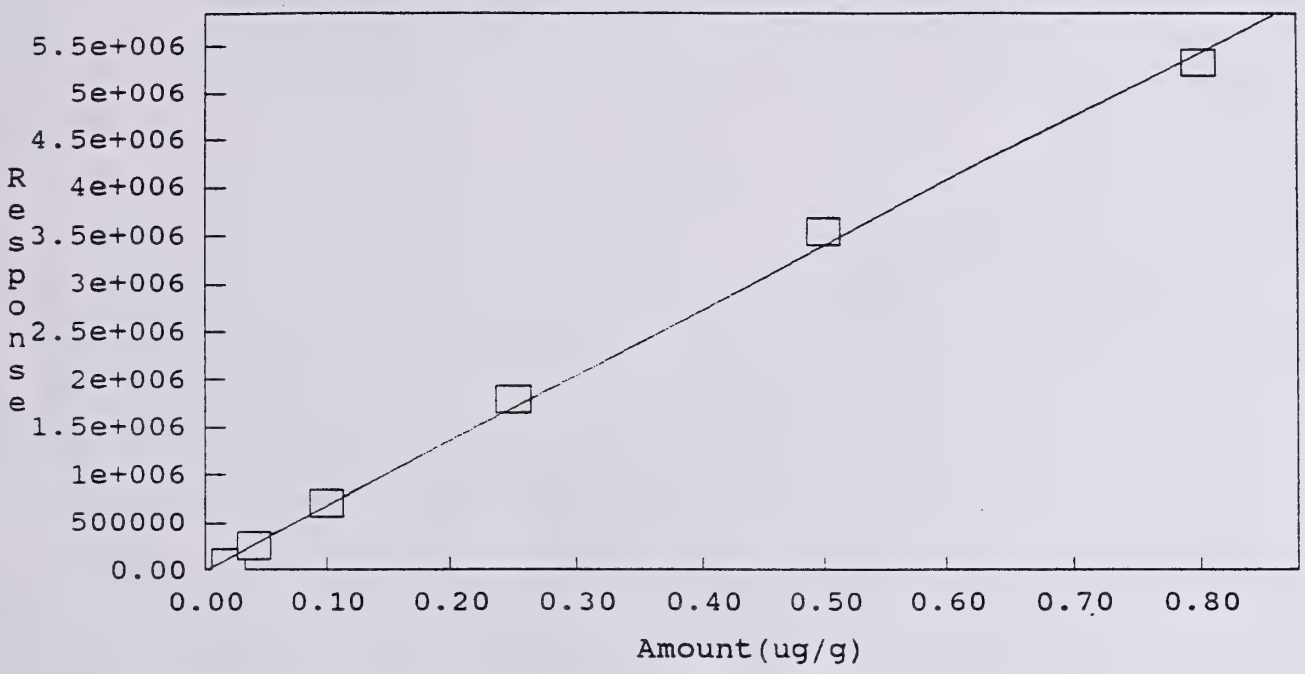
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: Tetryl
Fit Type: Linear
r^2 = 0.995888
Amt = Resp * 2.176e-007 + 0
Resp = Amt * 4.595e+006 + 0
Standardization: External
Calibration: Area



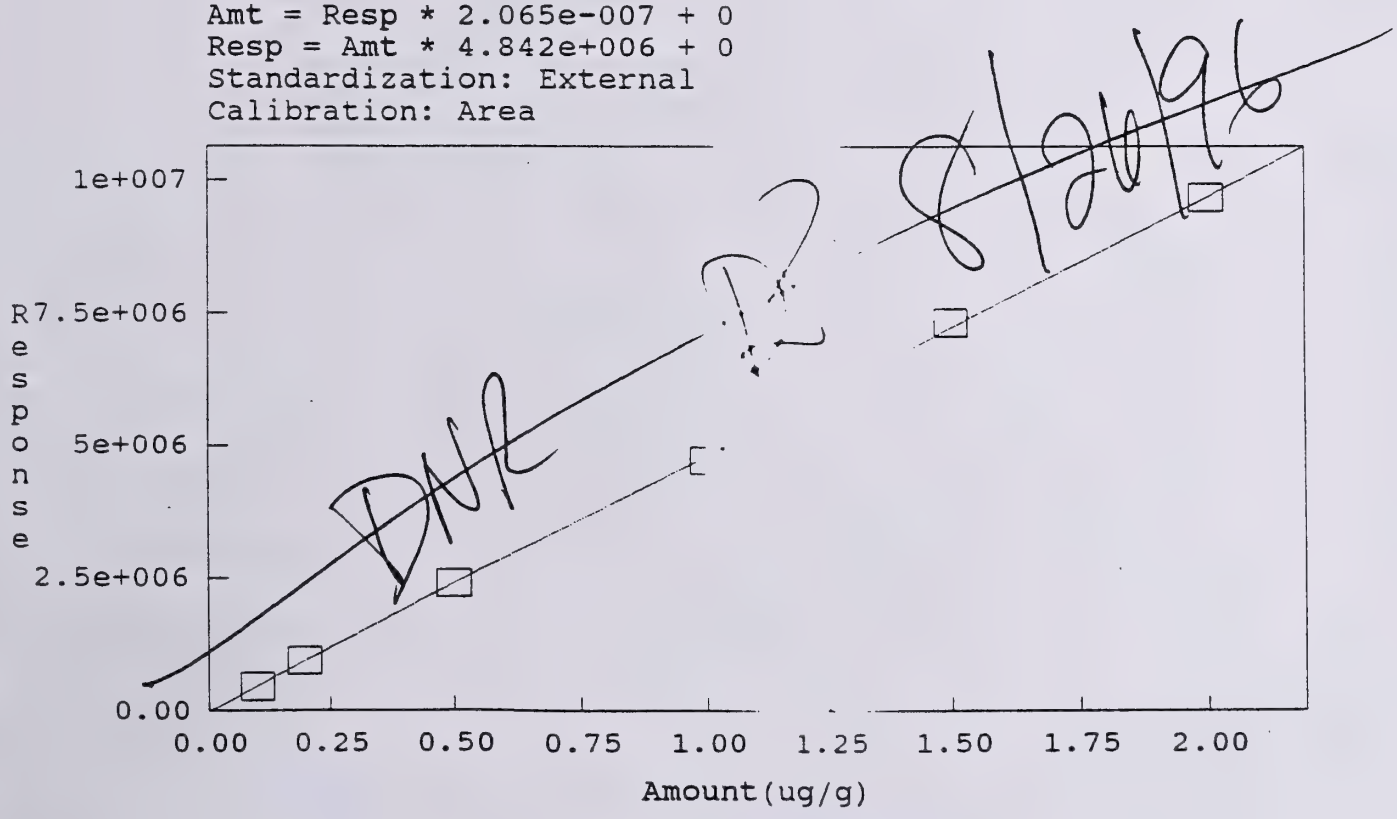
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: Nitrobenzene
Fit Type: Linear
r^2 = 0.998152
Amt = Resp * 1.474e-007 + 0
Resp = Amt * 6.784e+006 + 0
Standardization: External
Calibration: Area



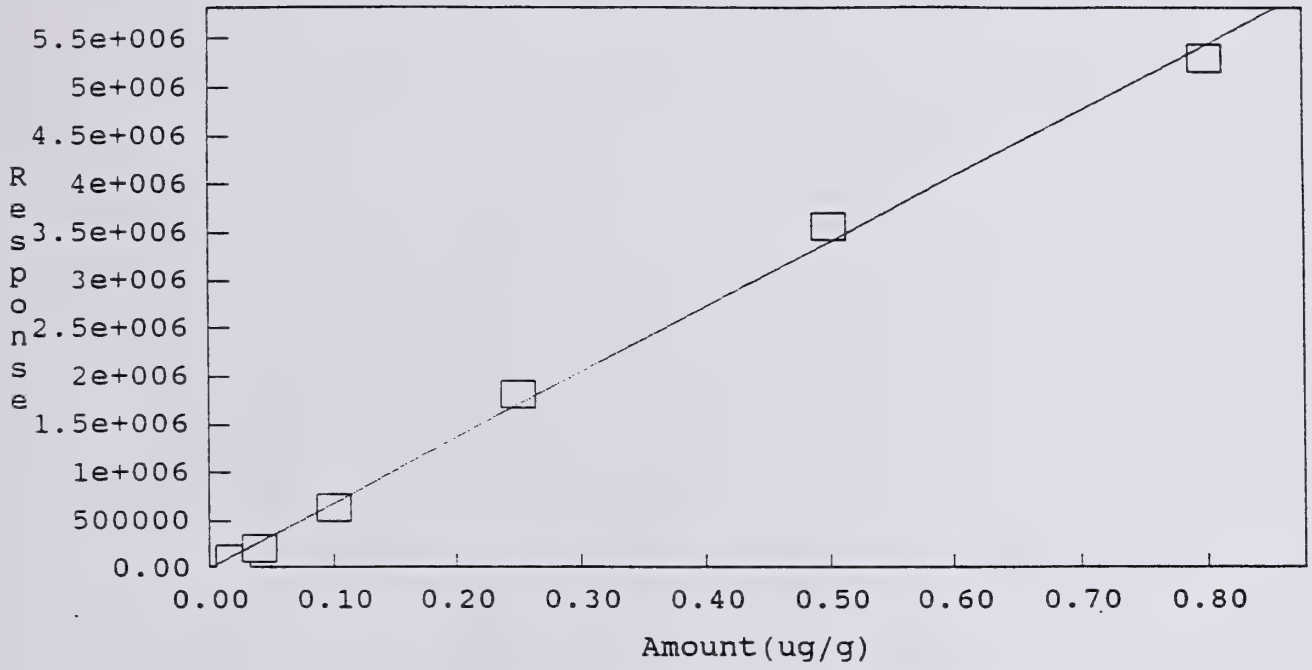
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: Nitroglycerin
Fit Type: Linear
r^2 = 0.999746
Amt = Resp * 2.065e-007 + 0
Resp = Amt * 4.842e+006 + 0
Standardization: External
Calibration: Area



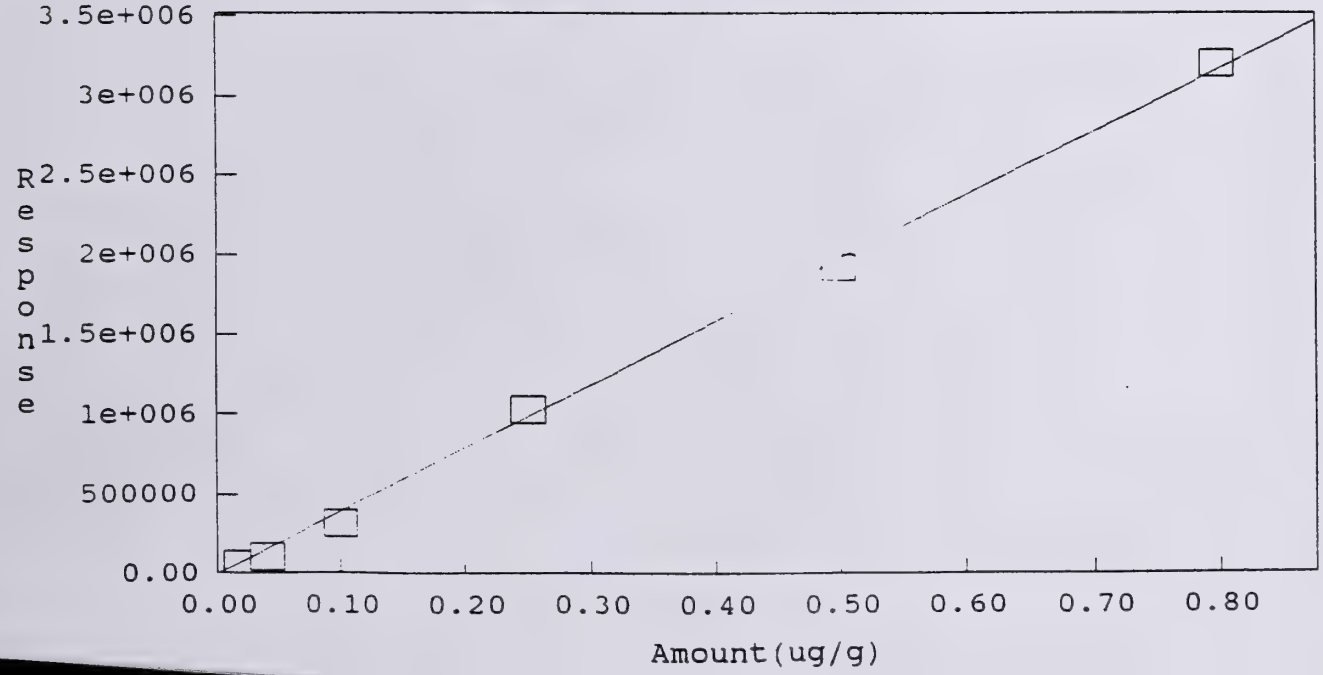
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 2-Am-4,6-DNT
Fit Type: Linear
r^2 = 0.997180
Amt = Resp * 1.475e-007 + 0
Resp = Amt * 6.778e+006 + 0
Standardization: External
Calibration: Area



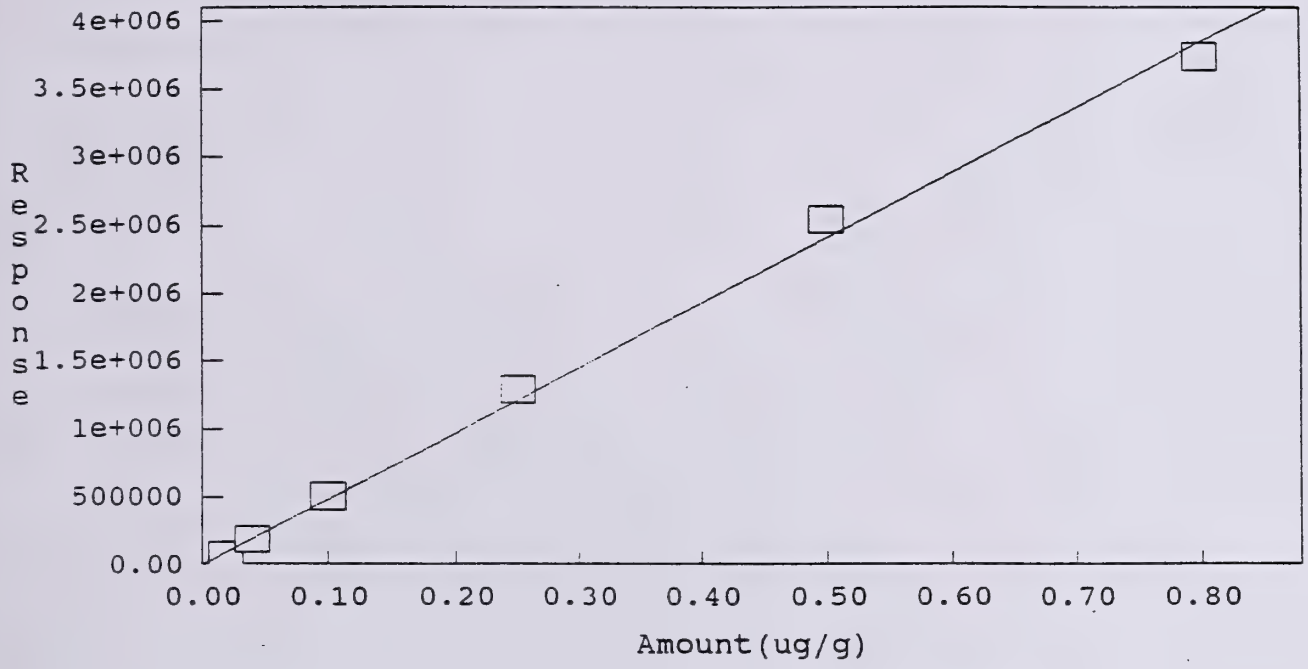
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 2,6-DNT
Fit Type: Linear
r^2 = 0.997852
Amt = Resp * 2.528e-007 + 0
Resp = Amt * 3.956e+006 + 0
Standardization: External
Calibration: Area



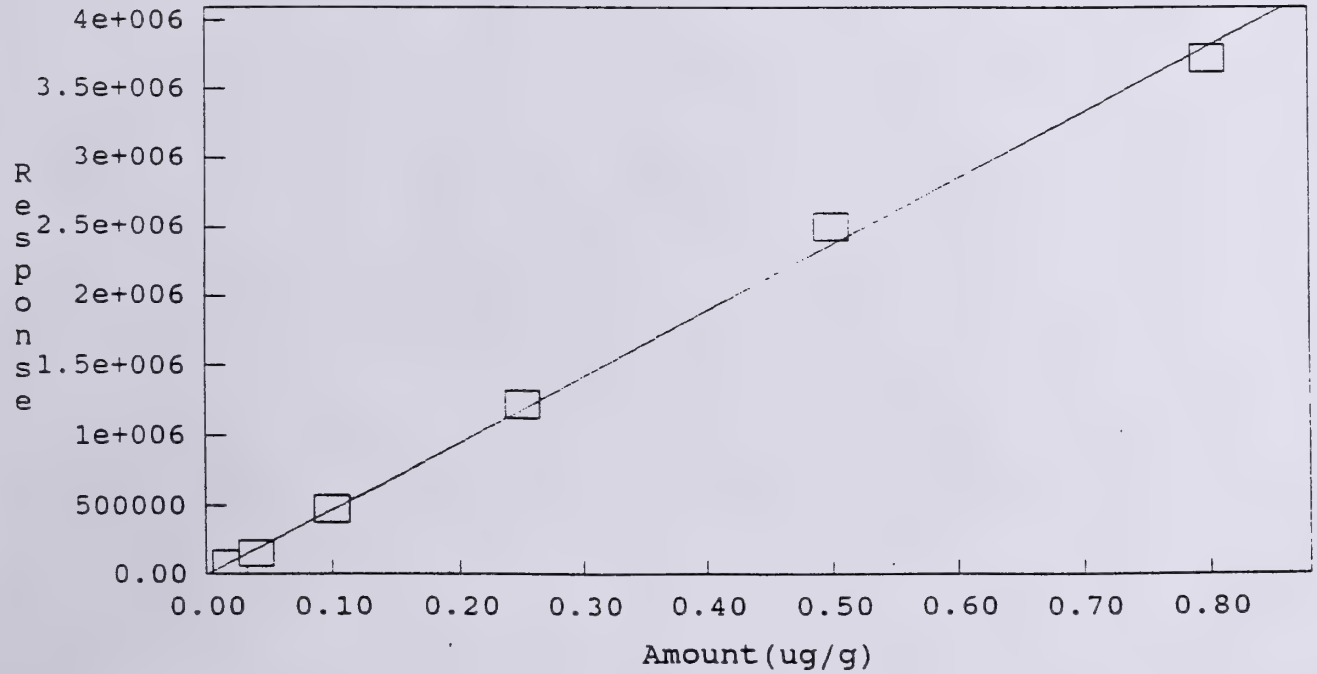
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 246-Trinitrotolue
Fit Type: Linear
r^2 = 0.996639
Amt = Resp * 2.082e-007 + 0
Resp = Amt * 4.803e+006 + 0
Standardization: External
Calibration: Area



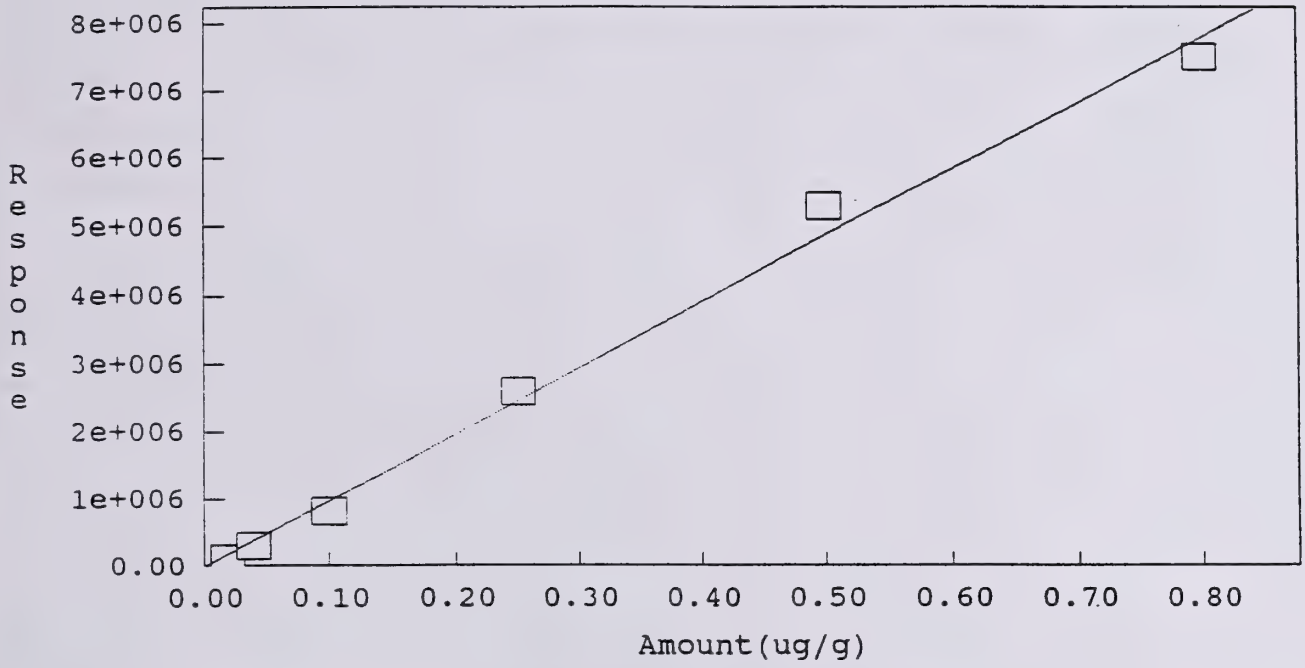
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 4-Am-2,6-DNT
Fit Type: Linear
r^2 = 0.997547
Amt = Resp * 2.098e-007 + 0
Resp = Amt * 4.766e+006 + 0
Standardization: External
Calibration: Area



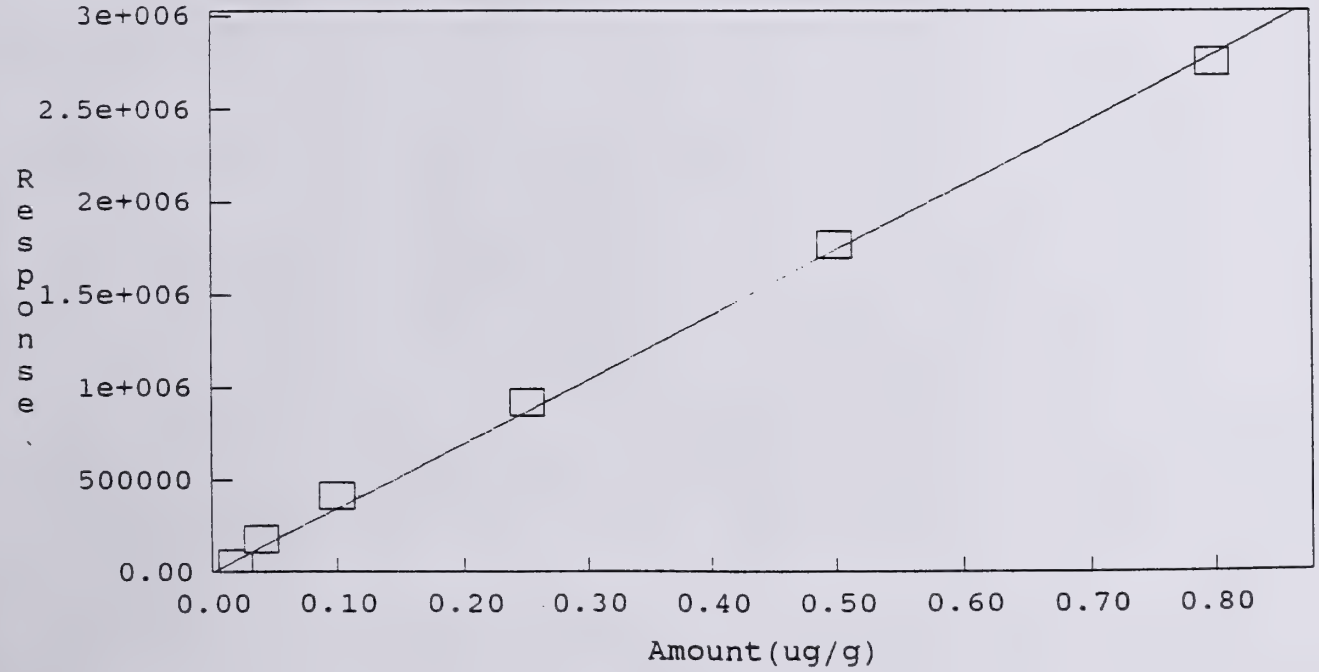
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 2,4-DNT
Fit Type: Linear
r^2 = 0.993181
Amt = Resp * 1.027e-007 + 0
Resp = Amt * 9.734e+006 + 0
Standardization: External
Calibration: Area



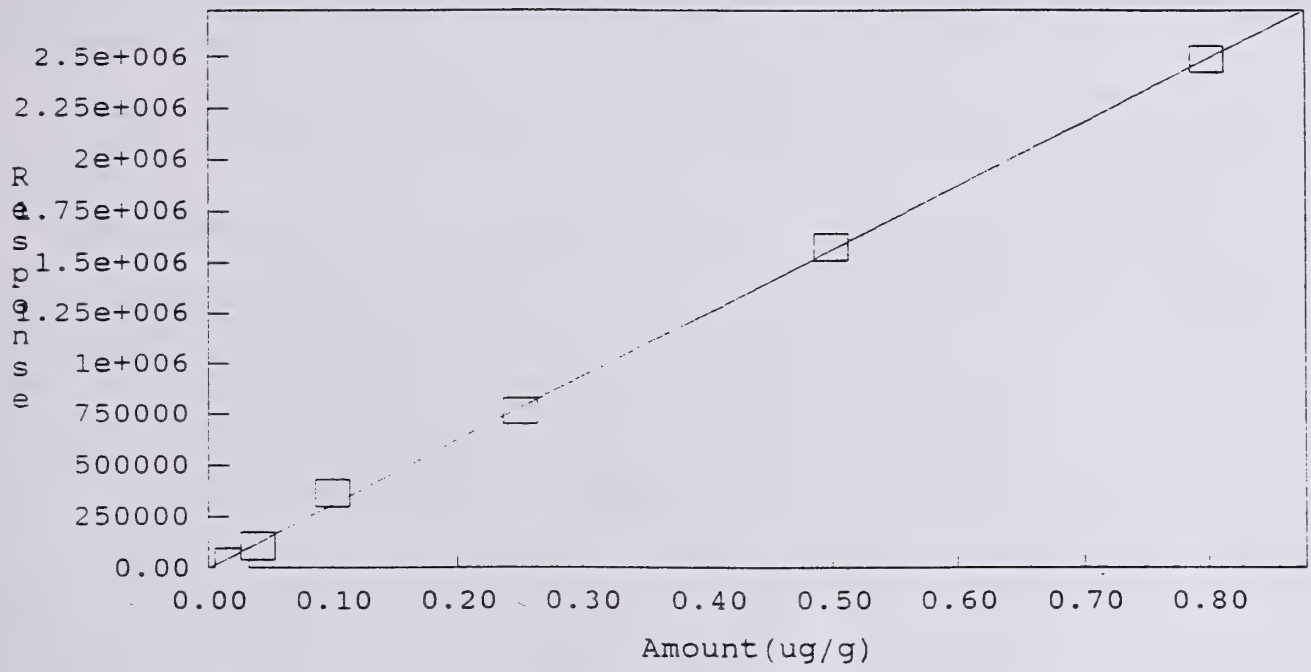
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 2-Nitrotoluene
Fit Type: Linear
r^2 = 0.998138
Amt = Resp * 2.862e-007 + 0
Resp = Amt * 3.494e+006 + 0
Standardization: External
Calibration: Area



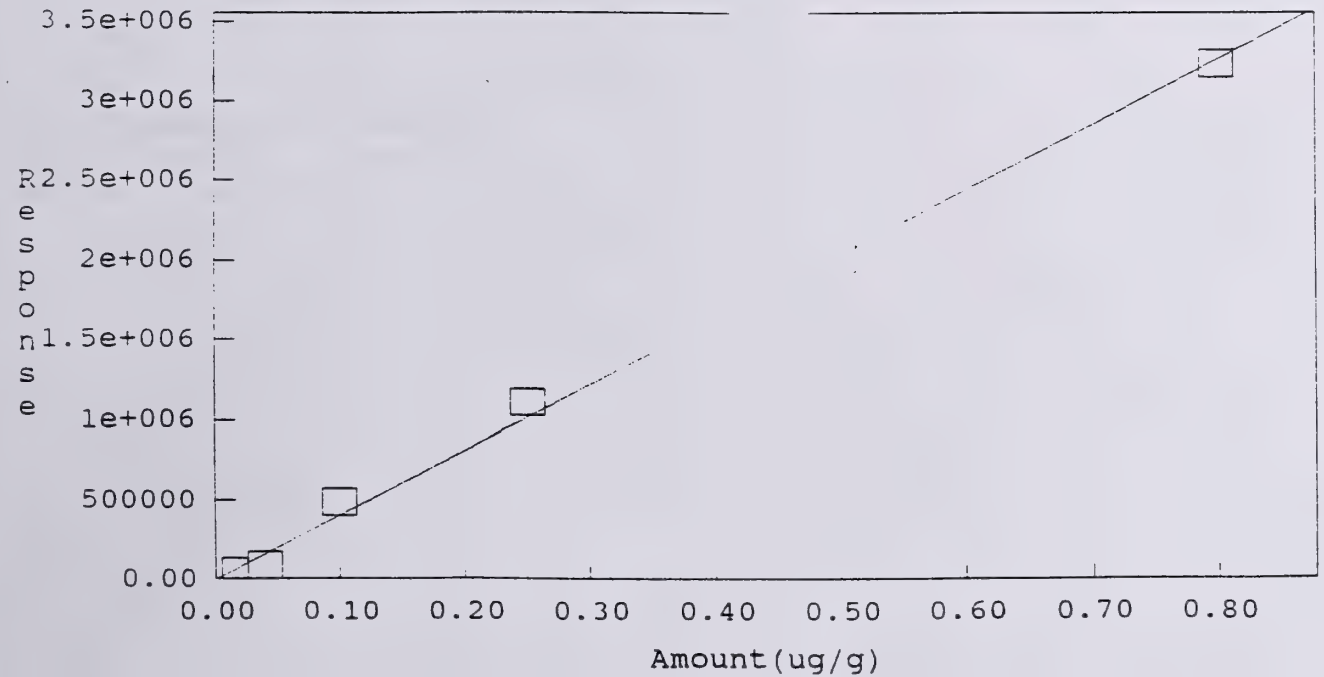
Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 4-Nitrotoluene
Fit Type: Linear
r^2 = 0.999041
Amt = Resp * 3.211e-007 + 0
Resp = Amt * 3.114e+006 + 0
Standardization: External
Calibration: Area



Method: D:\DX\METHOD\HPLCA\8330\082396.MET

Component: 3-Nitrotoluene
Fit Type: Linear
r^2 = 0.997197
Amt = Resp * 2.453e-007 + 0
Resp = Amt * 4.076e+006 + 0
Standardization: External
Calibration: Area



Lockheed Analytical Services

Data Reprocessed On 08/26/1996 12:57:51

Sample Name: AUTOCAL1R Date: 08/23/1996 15:01:42
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d02
Method : D:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

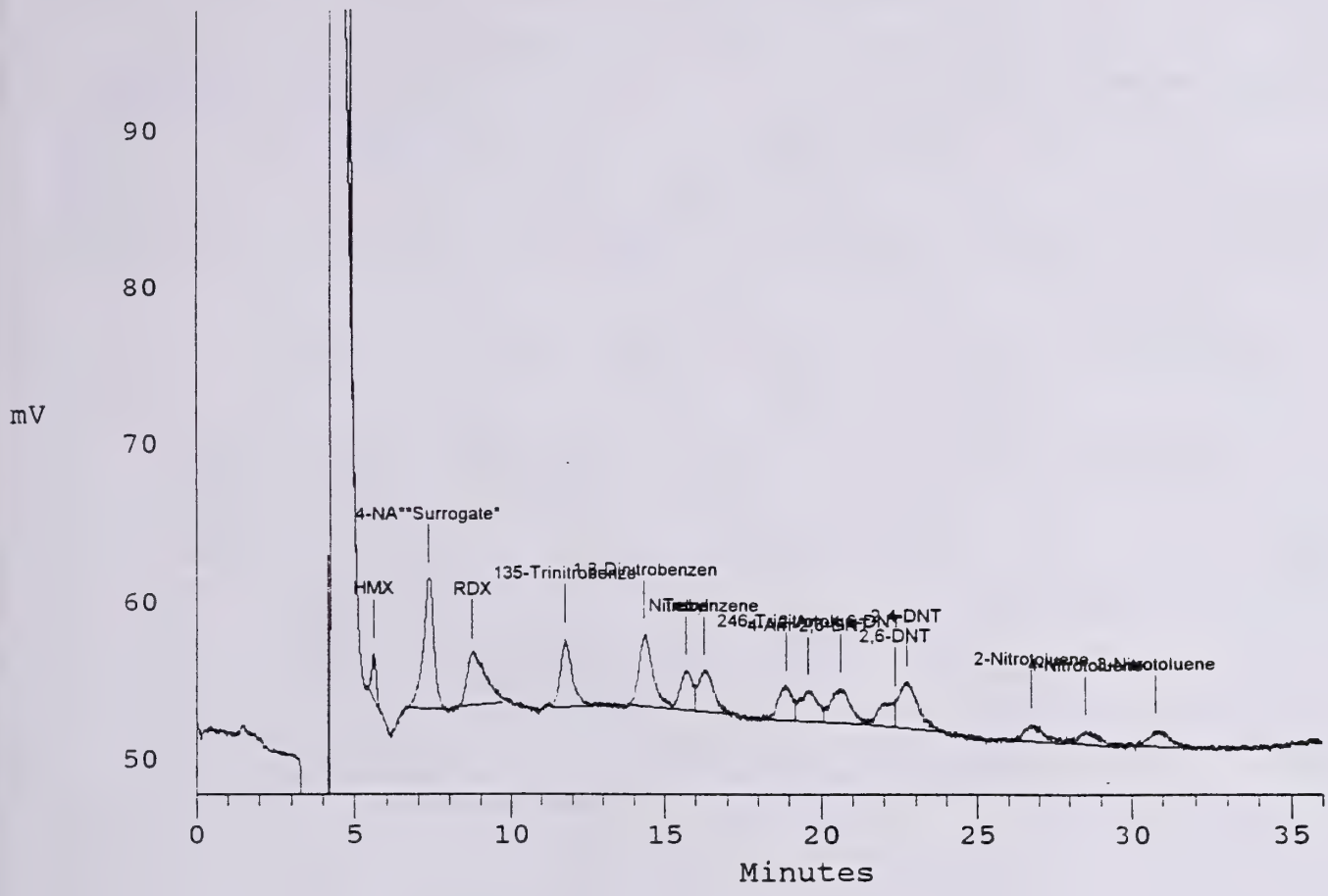
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.60	-0.59	HMX	30328	0.020
3	7.33	-0.45	4-NA**Surrogate*	195857	0.080
4	8.73	0.77	RDX	140518	0.020
5	11.77	-0.28	135-Trinitrobenze	116665	0.020
6	14.37	-0.23	1,3-Dinitrobenzen	145481	0.020
7	15.70	-0.21	Tetryl	67827	0.020
8	16.27	-0.61	Nitrobenzene	88283	0.020
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.90	0.00	246-Trinitrotolue	69918	0.020
10	19.63	-0.03	4-Am-2,6-DNT	76081	0.020
11	20.64	0.21	2-Am-4,6-DNT	94793	0.020
12	22.36	0.06	2,6-DNT	54972	0.020
13	22.73	0.00	2,4-DNT	123304	0.020
14	26.77	-0.11	2-Nitrotoluene	49816	0.020
15	28.53	-0.48	4-Nitrotoluene	35150	0.020
16	30.80	-0.23	3-Nitrotoluene	48870	0.020
0	0.00	0.00	PETN	0	0.000
			Totals	1337863	0.360

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.77			714758	0.000
			Totals	714758	0.000

File: 08239601.d02 Sample: AUTOCAL1R



Lockheed Analytical Services

Data Reprocessed On 08/26/1996 12:57:54

Sample Name: AUTOCAL2R Date: 08/23/1996 15:40:02
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d03
Method : D:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

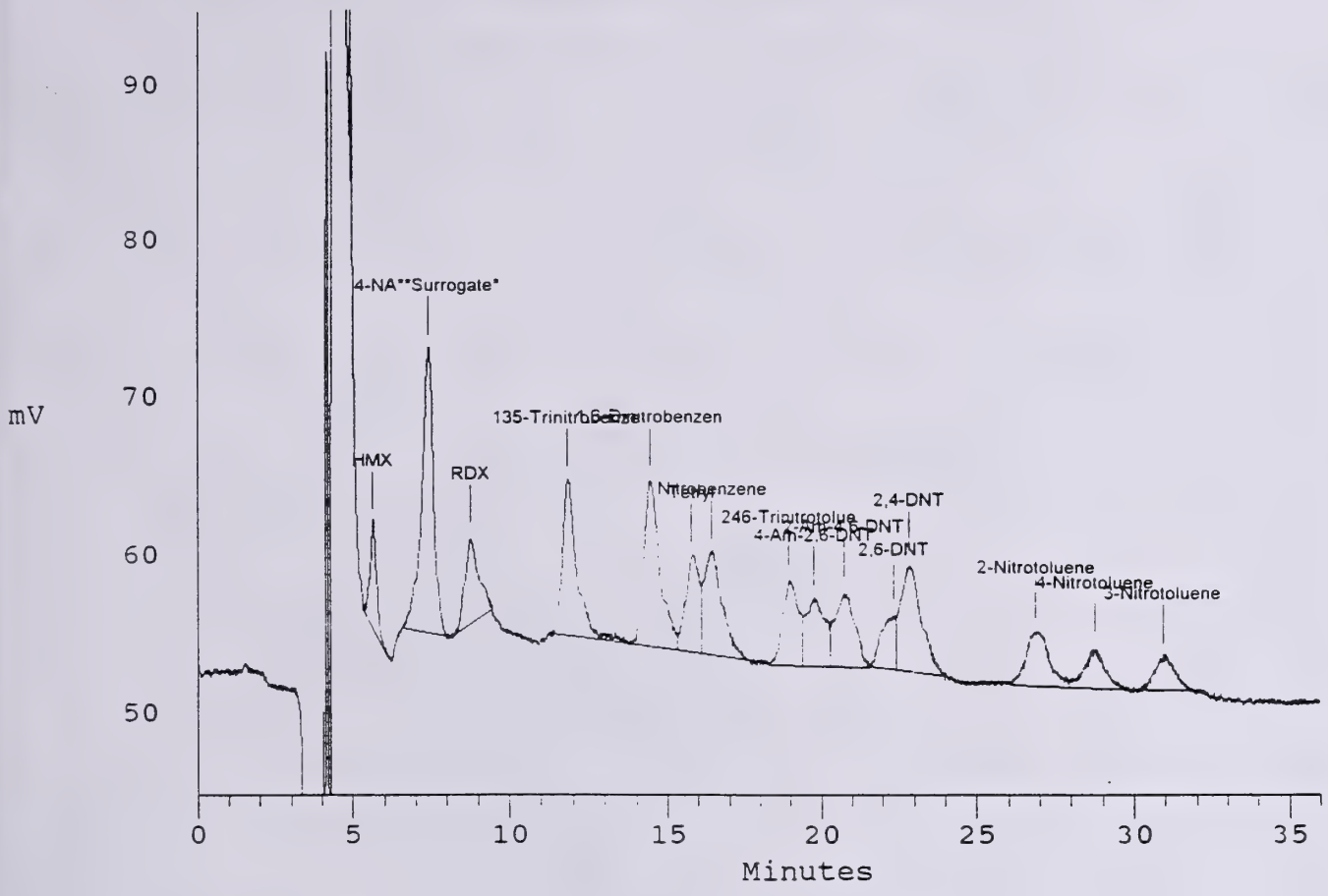
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.60	HMX	97685	0.040
3	7.40	0.91	4-NA**Surrogate*	476015	0.200
4	8.77	0.38	RDX	167048	0.040
5	11.83	0.57	135-Trinitrobenze	305315	0.040
6	14.47	0.70	1,3-Dinitrobenzen	370043	0.040
7	15.80	0.64	Tetryl	178016	0.040
8	16.47	1.23	Nitrobenzene	254241	0.040
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.97	0.35	246-Trinitrotolue	187190	0.040
10	19.77	0.71	4-Am-2,6-DNT	151948	0.040
11	20.74	0.48	2-Am-4,6-DNT	206504	0.040
12	22.37	0.06	2,6-DNT	108569	0.040
13	22.87	0.59	2,4-DNT	307921	0.040
14	26.90	0.49	2-Nitrotoluene	177326	0.040
15	28.77	0.83	4-Nitrotoluene	110130	0.040
16	30.93	0.44	3-Nitrotoluene	90130	0.040
0	0.00	0.00	PETN	0	0.000
			Totals	3188083	0.760

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.83			533810	0.000
			Totals	533810	0.000

File: 08239601.d03 Sample: AUTOCAL2R



Lockheed Analytical Services

Data Reprocessed On 08/26/1996 12:57:57

Sample Name: AUTOCAL3R Date: 08/23/1996 16:18:10
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d04
Method : D:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

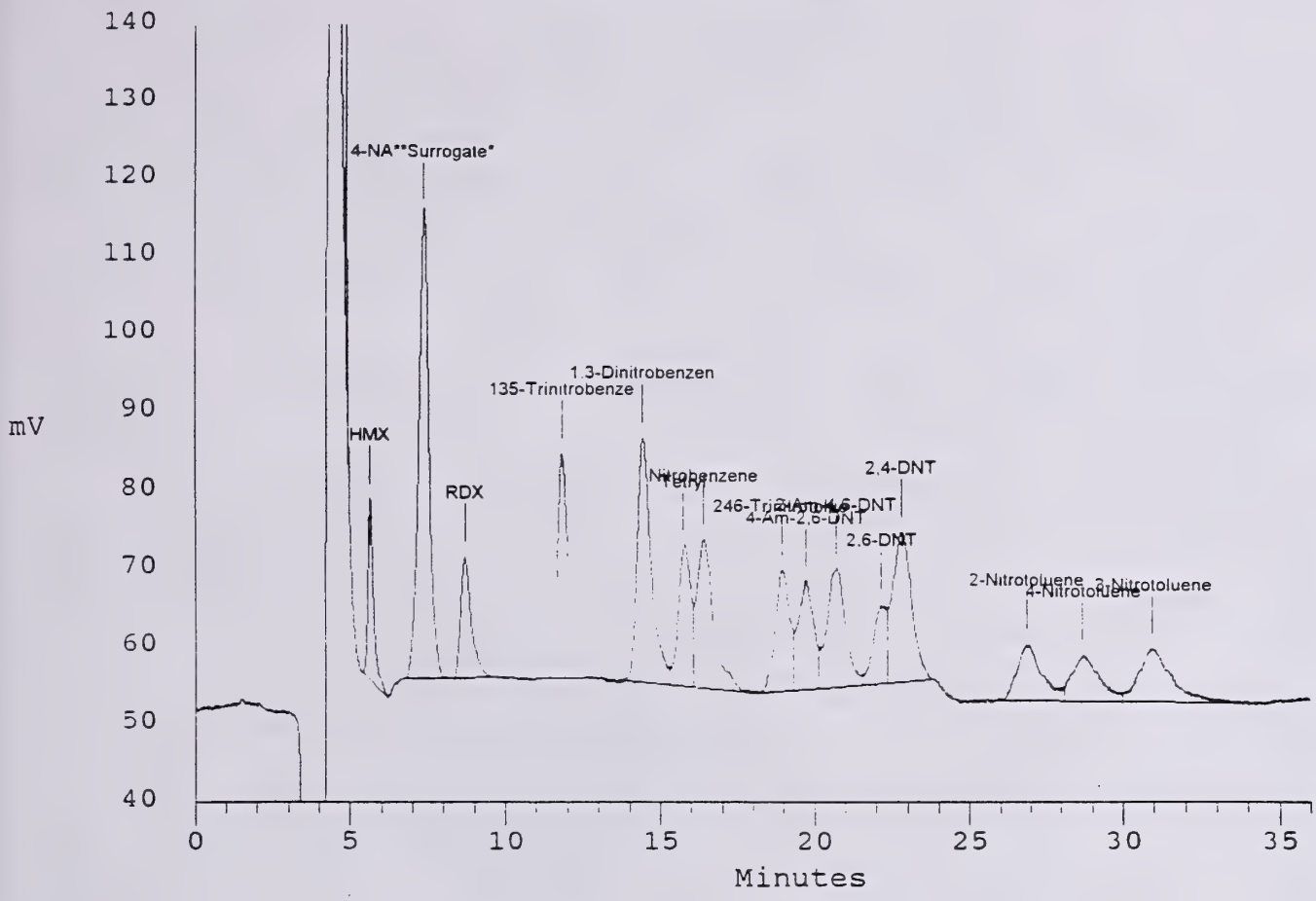
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.00	HMX	292736	0.100
3	7.37	-0.45	4-NA**Surrogate*	1380714	0.500
4	8.70	-0.76	RDX	378745	0.100
5	11.83	0.00	135-Trinitrobenze	733799	0.100
6	14.43	-0.23	1,3-Dinitrobenzen	992025	0.100
7	15.77	-0.21	Tetryl	492802	0.100
8	16.40	-0.40	Nitrobenzene	704935	0.100
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.93	-0.18	246-Trinitrotolue	501536	0.100
10	19.73	-0.17	4-Am-2,6-DNT	474449	0.100
11	20.70	-0.21	2-Am-4,6-DNT	633199	0.100
12	22.17	-0.89	2,6-DNT	313379	0.100
13	22.80	-0.29	2,4-DNT	808027	0.100
14	26.87	-0.12	2-Nitrotoluene	417658	0.100
15	28.70	-0.23	4-Nitrotoluene	365656	0.100
16	30.97	0.11	3-Nitrotoluene	488391	0.100
0	0.00	0.00	PETN	0	0.000
			Totals	8978053	1.900

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.83			513052	0.000
			Totals	513052	0.000

File: 08239601.d04 Sample: AUTOCAL3R



Lockheed Analytical Services

Data Reprocessed On 08/26/1996 12:57:59

Sample Name: AUTOCAL4R Date: 08/23/1996 16:56:22
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d05
Method : D:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

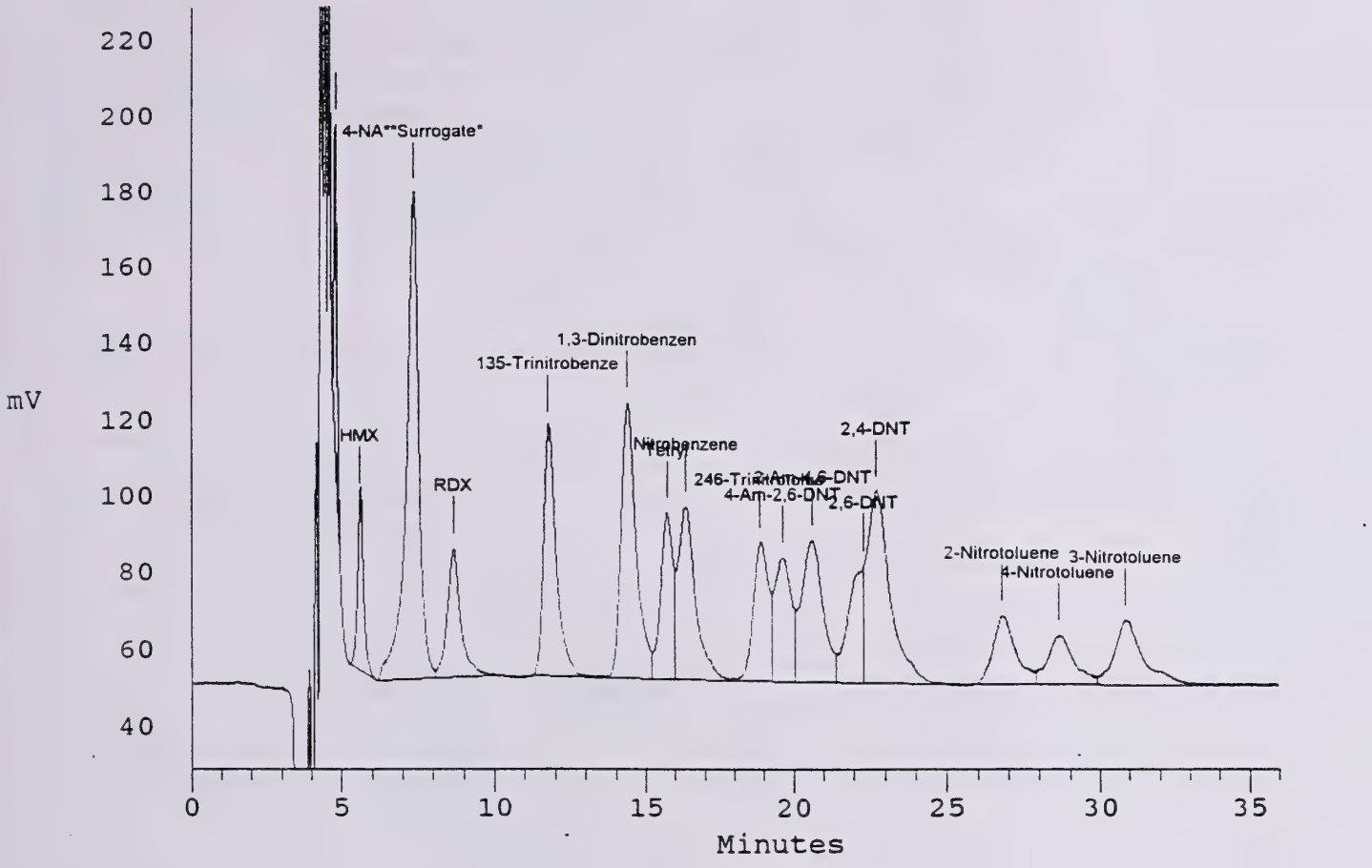
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.60	-0.59	HMX	650073	0.250
3	7.37	0.00	4-NA**Surrogate*	3621476	1.260
4	8.67	-0.38	RDX	1031358	0.250
5	11.77	-0.56	135-Trinitrobenze	1903271	0.250
6	14.40	-0.23	1,3-Dinitrobenzen	2515386	0.250
7	15.73	-0.21	Tetryl	1219641	0.250
8	16.37	-0.20	Nitrobenzene	1777059	0.250
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.87	-0.35	246-Trinitrotolue	1275846	0.250
10	19.63	-0.51	4-Am-2,6-DNT	1221856	0.250
11	20.63	-0.32	2-Am-4,6-DNT	1792819	0.250
12	22.32	0.68	2,6-DNT	1024666	0.250
13	22.73	-0.29	2,4-DNT	2575049	0.250
14	26.80	-0.25	2-Nitrotoluene	919981	0.250
15	28.63	-0.23	4-Nitrotoluene	760389	0.250
16	30.87	-0.32	3-Nitrotoluene	1109008	0.250
0	0.00	0.00	PETN	0	0.000
			Totals	23397880	4.760

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			538162	0.000
			Totals	538162	0.000

File: 08239601.d05 Sample: AUTOCAL4R



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Data Reprocessed On 08/26/1996 12:58:02

Sample Name: AUTOCAL5R Date: 08/23/1996 17:34:38
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d06
Method : D:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

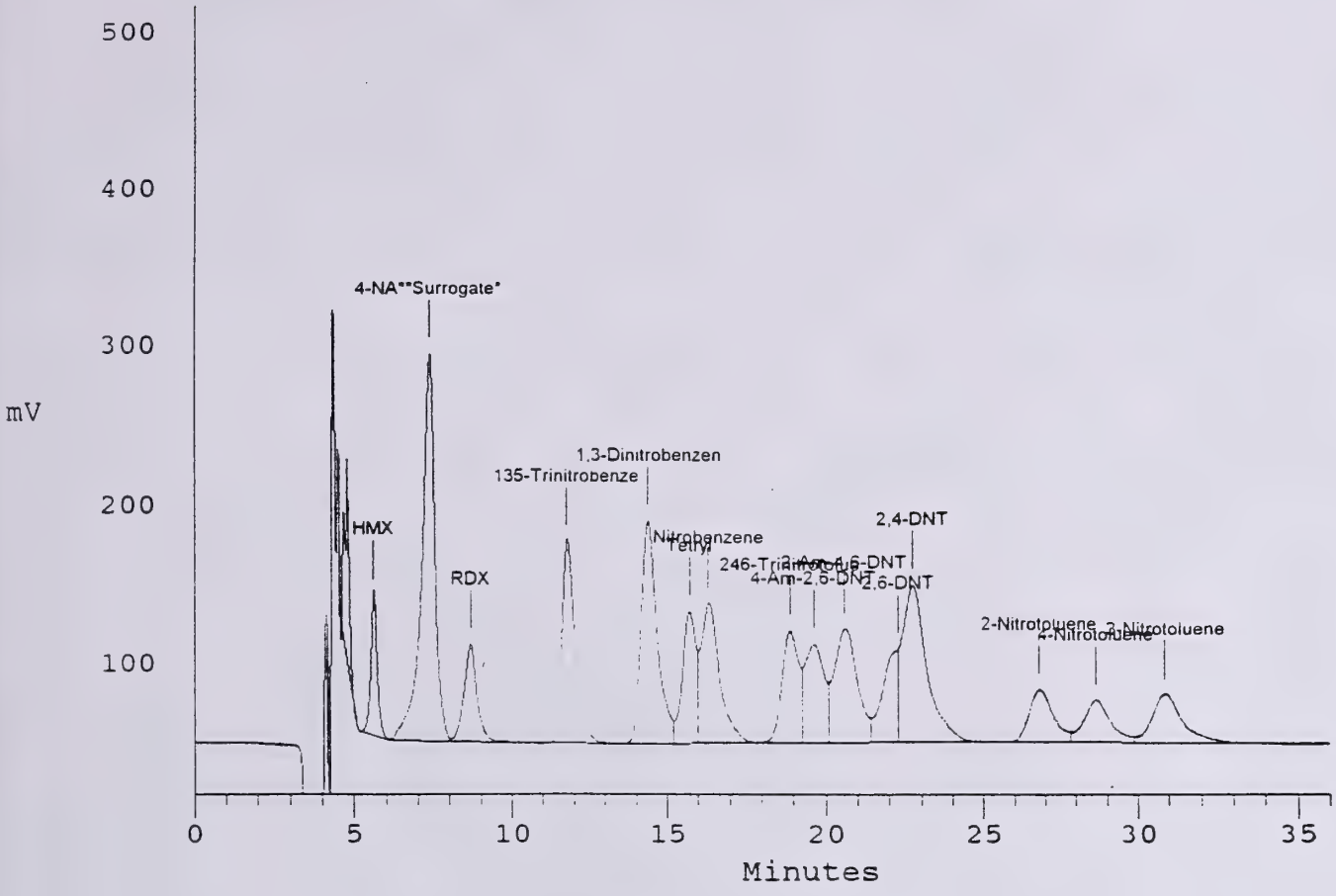
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.60	0.00	HMX	1283990	0.500
3	7.37	0.00	4-NA**Surrogate*	7012135	2.520
4	8.67	0.00	RDX	1763696	0.500
5	11.77	0.00	135-Trinitrobenze	3758607	0.500
6	14.40	0.00	1,3-Dinitrobenzen	5028709	0.500
7	15.73	0.00	Tetryl	2436648	0.500
8	16.33	-0.20	Nitrobenzene	3523148	0.500
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.90	0.18	246-Trinitrotolue	2530805	0.500
10	19.63	0.00	4-Am-2,6-DNT	2507205	0.500
11	20.60	-0.16	2-Am-4,6-DNT	3551771	0.500
12	22.27	-0.21	2,6-DNT	1916951	0.500
13	22.73	0.00	2,4-DNT	5262399	0.500
14	26.80	0.00	2-Nitrotoluene	1768299	0.500
15	28.63	0.00	4-Nitrotoluene	1569215	0.500
16	30.87	0.00	3-Nitrotoluene	2016349	0.500
0	0.00	0.00	PETN	0	0.000
			Totals	45929927	9.520

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.77			1242738	0.000
			Totals	1242738	0.000

File: 08239601.d06 Sample: AUTOCAL5R



Lockheed Analytical Services

Data Reprocessed On 08/26/1996 12:58:05

Sample Name: AUTOCAL6R Date: 08/23/1996 18:12:58
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d07
Method : D:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

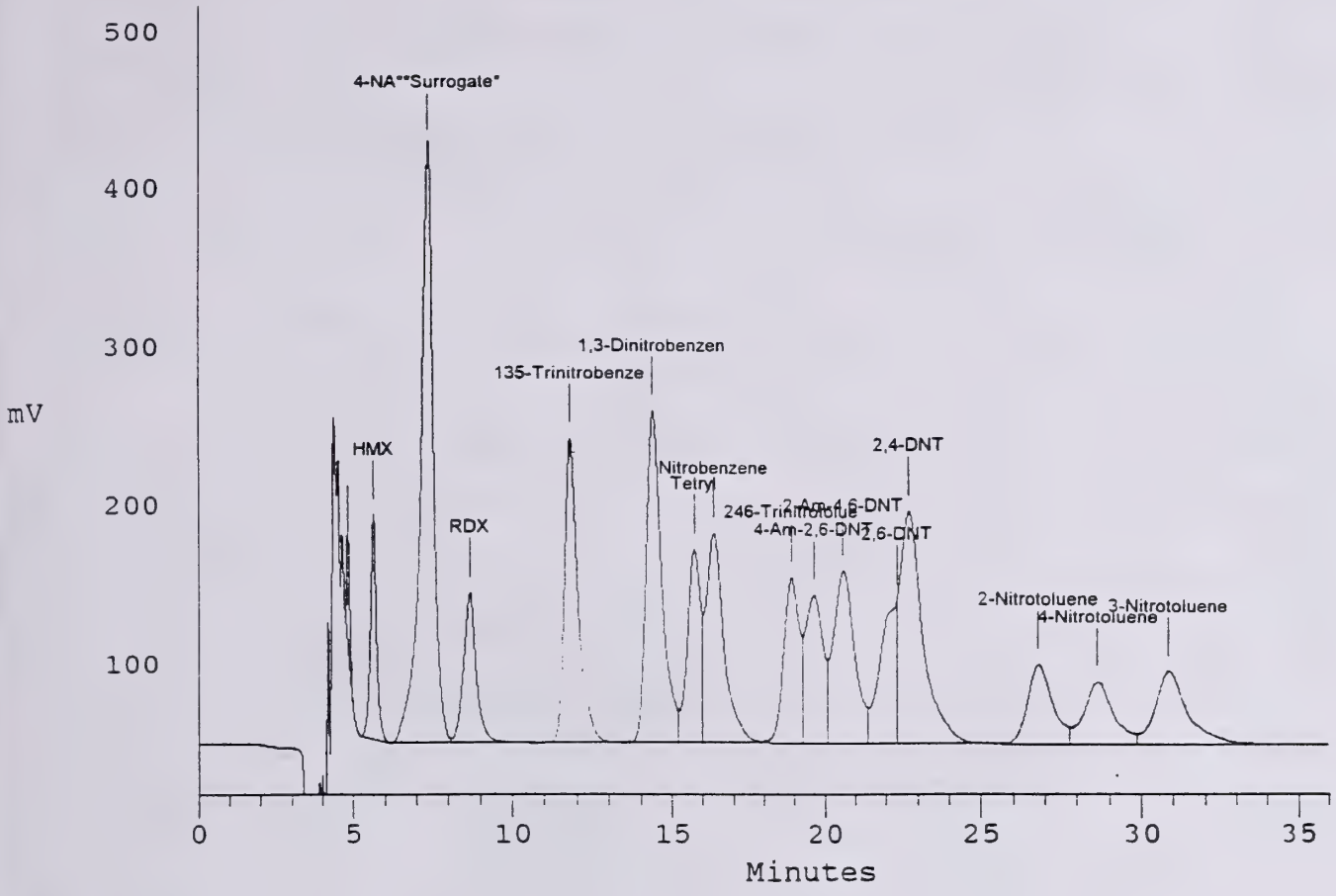
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.60	HMX	1968514	0.800
3	7.37	0.00	4-NA**Surrogate*	10577732	4.020
4	8.67	0.00	RDX	2664801	0.800
5	11.80	0.28	135-Trinitrobenze	5587015	0.800
6	14.40	0.00	1,3-Dinitrobenzen	7373417	0.800
7	15.73	0.00	Tetryl	3552248	0.800
8	16.37	0.20	Nitrobenzene	5310754	0.800
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.90	0.00	246-Trinitrotolue	3726328	0.800
10	19.63	0.00	4-Am-2,6-DNT	3721360	0.800
11	20.60	0.00	2-Am-4,6-DNT	5288862	0.800
12	22.34	0.31	2,6-DNT	3199824	0.800
13	22.73	0.00	2,4-DNT	7482486	0.800
14	26.80	0.00	2-Nitrotoluene	2753258	0.800
15	28.67	0.12	4-Nitrotoluene	2482580	0.800
16	30.87	0.00	3-Nitrotoluene	3233588	0.800
0	0.00	0.00	PETN	0	0.000
			Totals	68922767	15.220

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.83			468004	0.000
			Totals	468004	0.000

File: 08239601.d07 Sample: AUTOCAL6R



Lockheed Analytical Services

Data Reprocessed On 08/26/1996 13:57:21

Sample Name: CCV3 Date: 08/23/1996 23:57:47
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d16
Method : d:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 16 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	10800	5Hz	0.00	36.00	5000

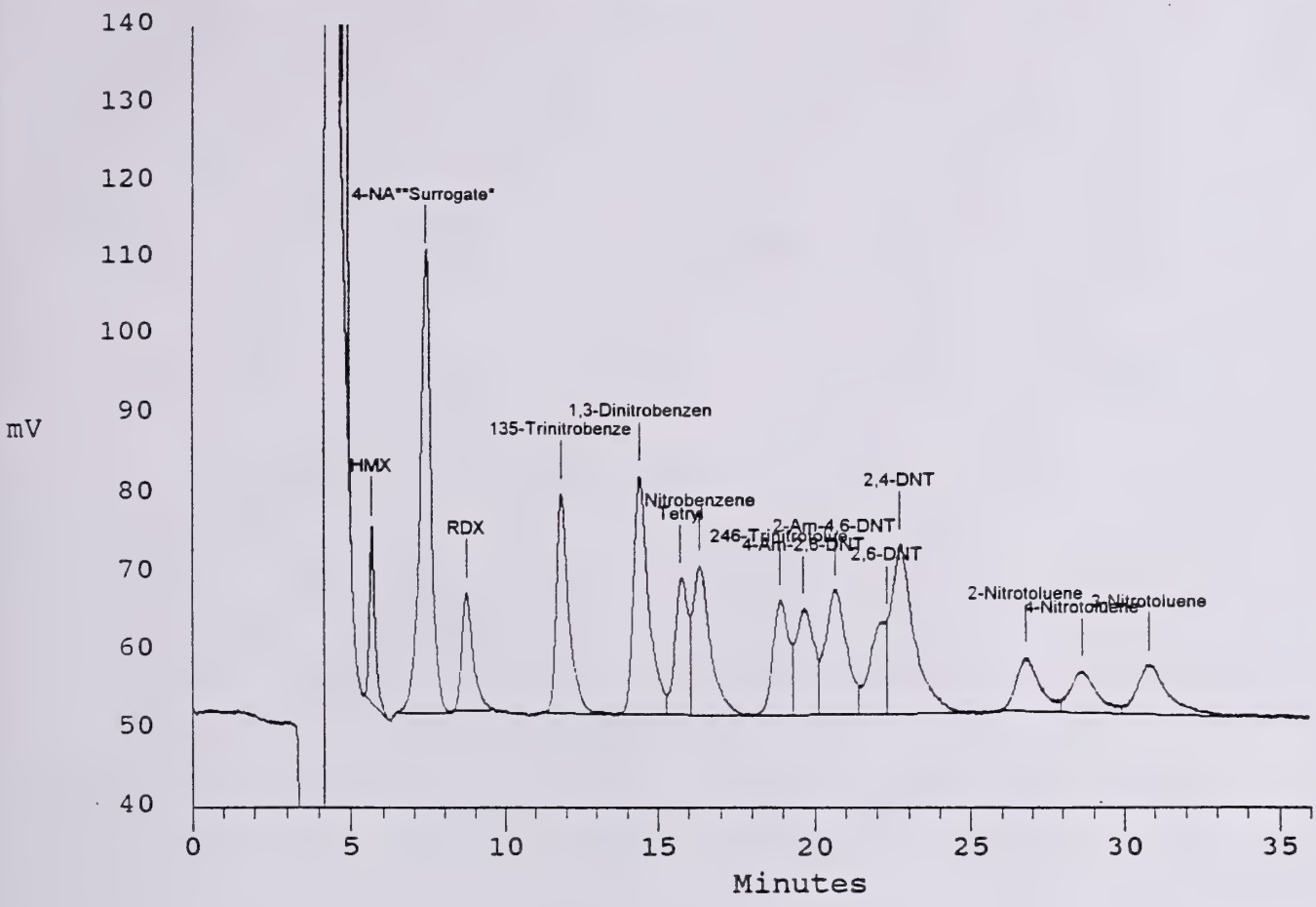
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.63	0.00	HMX	284369	0.114
3	7.37	0.00	4-NA**Surrogate*	1483790	0.552
4	8.70	0.38	RDX	393865	0.114
5	11.83	0.28	135-Trinitrobenze	791498	0.110
6	14.43	0.23	1,3-Dinitrobenzen	1036340	0.109
7	15.77	0.21	Tetryl	504564	0.110
8	16.37	0.00	Nitrobenzene	713434	0.105
0	0.00	0.00	Nitroglycerin	0	0.000
9	18.90	0.00	246-Trinitrotolue	514046	0.107
10	19.67	0.17	4-Am-2,6-DNT	540076	0.113
11	20.67	0.32	2-Am-4,6-DNT	743484	0.110
12	22.33	-0.07	2,6-DNT	426662	0.108
13	22.73	0.00	2,4-DNT	1106871	0.114
14	26.80	0.00	2-Nitrotoluene	362830	0.104
15	28.63	-0.12	4-Nitrotoluene	312328	0.100
16	30.83	-0.11	3-Nitrotoluene	438289	0.108
0	0.00	0.00	PETN	0	0.000
			Totals	9652446	2.077

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			554251	0.000
			Totals	554251	0.000

File: 08239601.d16 Sample: CCV3



QC DATA

NO HITS

8/26/96

Lockheed Analytical Services

Data Reprocessed On 08/26/1996 13:56:57

Sample Name: 40540MB Date: 08/23/1996 19:29:18
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d09
Method : d:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

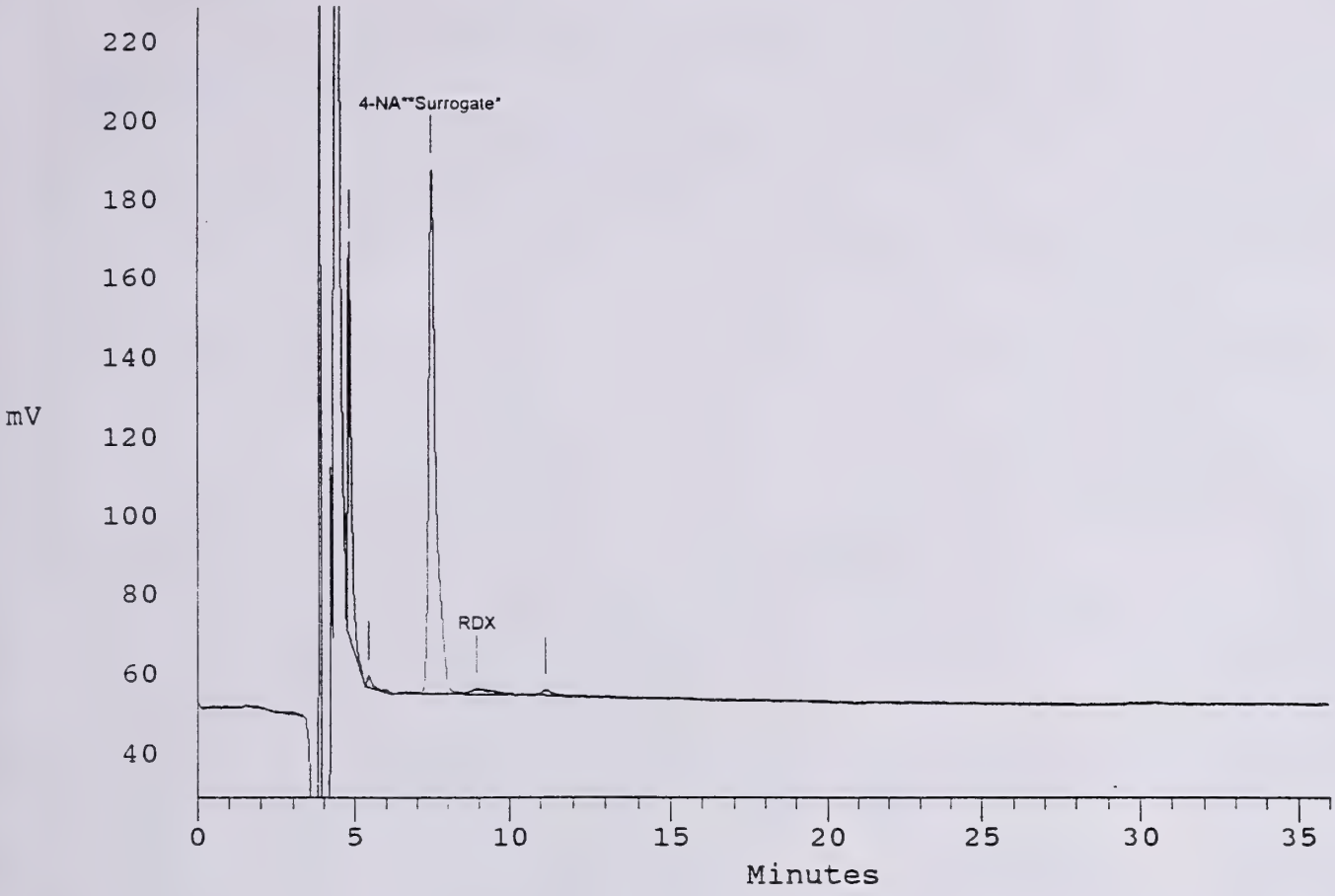
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
0	0.00	0.00	HMX	0	0.000
3	7.47	1.36	4-NA**Surrogate*	2146816	9.976
~~4~~	~~8.93~~	~~3.08~~	~~RDX~~	~~58216~~	~~0.211~~
0	0.00	0.00	135-Trinitrobenze	0	0.000
0	0.00	0.00	1,3-Dinitrobenzen	0	0.000
0	0.00	0.00	Tetryl	0	0.000
0	0.00	0.00	Nitrobenzene	0	0.000
0	0.00	0.00	Nitroglycerin	0	0.000
0	0.00	0.00	246-Trinitrotolue	0	0.000
0	0.00	0.00	4-Am-2,6-DNT	0	0.000
0	0.00	0.00	2-Am-4,6-DNT	0	0.000
0	0.00	0.00	2,6-DNT	0	0.000
0	0.00	0.00	2,4-DNT	0	0.000
0	0.00	0.00	2-Nitrotoluene	0	0.000
0	0.00	0.00	4-Nitrotoluene	0	0.000
0	0.00	0.00	3-Nitrotoluene	0	0.000
0	0.00	0.00	PETN	0	0.000
			Totals	2205032	10.187

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			809671	0.000
2	5.43			42543	0.000
5	11.13			36612	0.000
			Totals	888827	0.000

File: 08239601.d09 Sample: 40540MB



(14)

DP 8/26/96

Lockheed Analytical Services

Data Reprocessed On 08/26/1996 13:57:04

Sample Name: 40540MS Date: 08/23/1996 20:46:46
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d11
Method : d:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 11 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

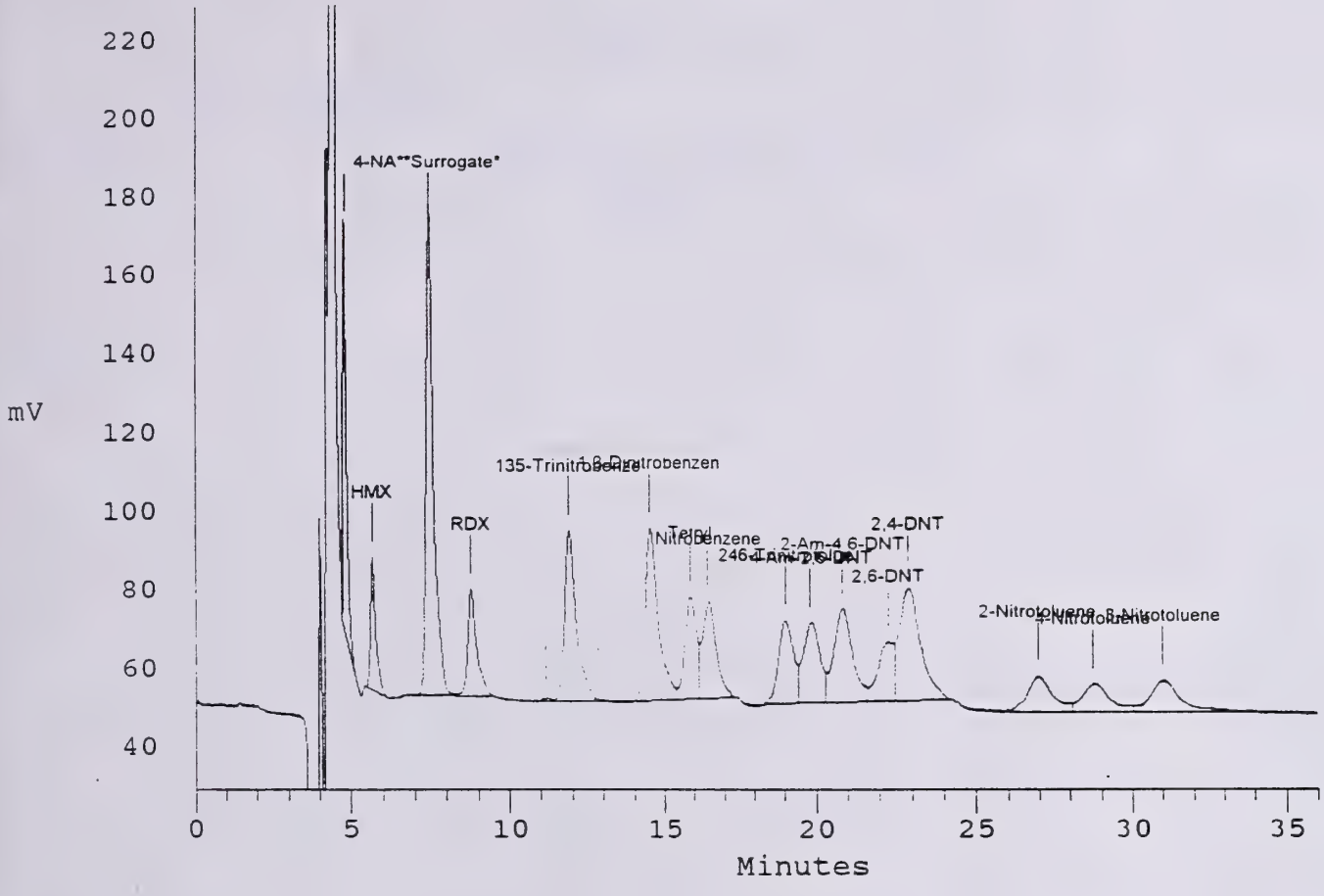
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.67	0.59	HMX	395807	1.976
3	7.43	0.90	4-NA**Surrogate*	1987356	9.235
4	8.77	1.15	RDX	540767	1.956
6	11.90	0.85	135-Trinitrobenze	1105258	1.925
8	14.53	0.93	1,3-Dinitrobenzen	1317074	1.731
9	15.87	0.85	Tetryl	701829	1.909
10	16.47	0.61	Nitrobenzene	766492	1.412
0	0.00	0.00	Nitroglycerin	0	0.000
11	19.03	0.71	246-Trinitrotolue	706060	1.838
12	19.83	1.02	4-Am-2,6-DNT	737629	1.935
13	20.83	1.13	2-Am-4,6-DNT	973380	1.795
14	22.27	-0.33	2,6-DNT	512859	1.621
15	22.90	0.73	2,4-DNT	1322649	1.699
16	26.97	0.62	2-Nitrotoluene	497628	1.780
17	28.73	0.23	4-Nitrotoluene	425604	1.708
18	31.00	0.43	3-Nitrotoluene	510955	1.567
0	0.00	0.00	PETN	0	0.000
			Totals	12501347	34.087

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			781127	0.000
5	11.17			10483	0.000
			Totals	791610	0.000

File: 08239601.d11 Sample: 40540MS



(14)

DK 8/26/96

Lockheed Analytical Services

Data Reprocessed On 08/26/1996 13:57:07

Sample Name: 40540MSD Date: 08/23/1996 21:25:00
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.d12
Method : d:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

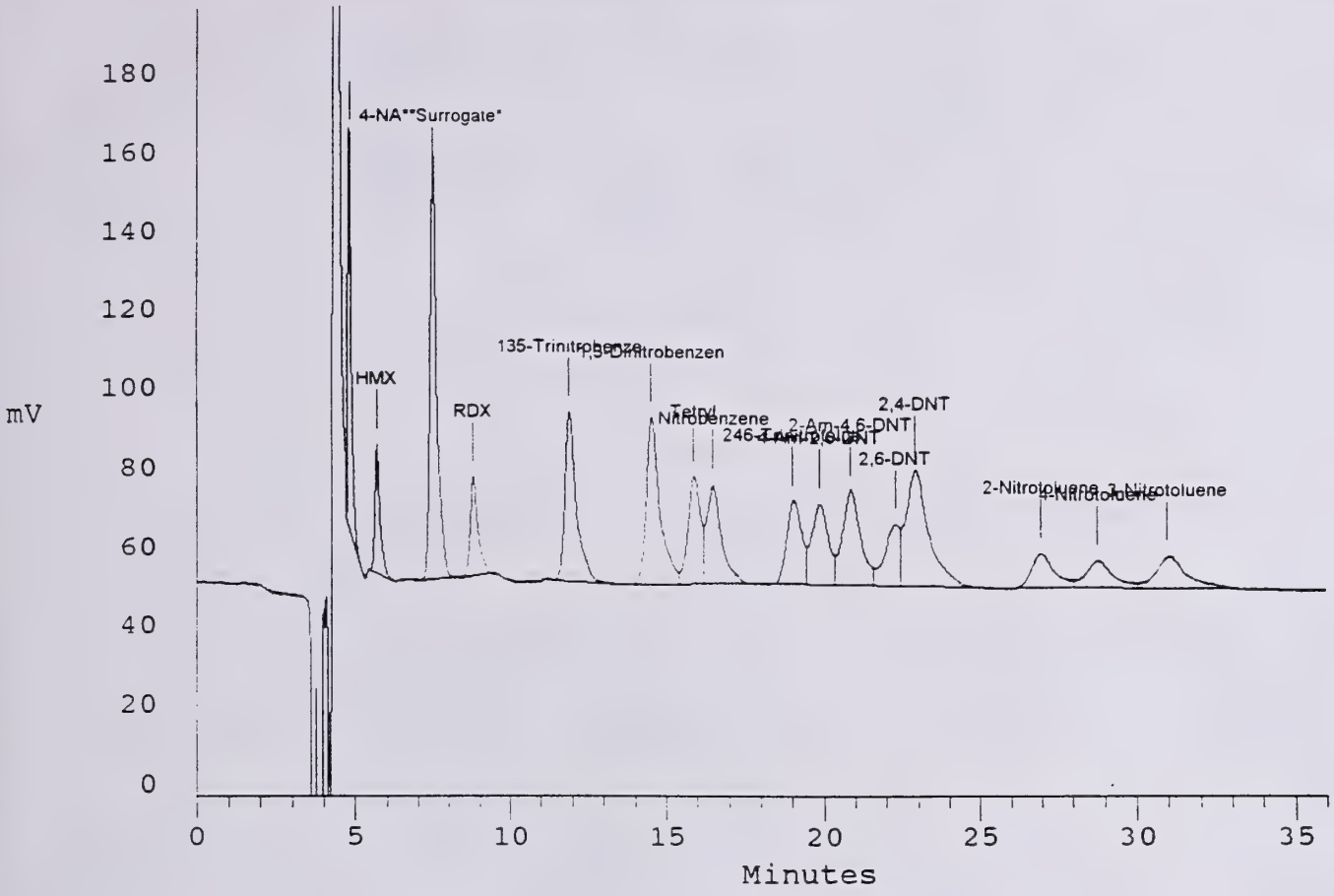
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.67	0.59	HMX	371289	1.853
3	7.43	0.90	4-NA**Surrogate*	1651327	7.674
4	8.77	1.15	RDX	449051	1.625
5	11.90	0.85	135-Trinitrobenze	1094951	1.907
6	14.53	0.93	1,3-Dinitrobenzen	1285564	1.689
7	15.87	0.85	Tetryl	751647	2.045
8	16.50	0.81	Nitrobenzene	794238	1.464
0	0.00	0.00	Nitroglycerin	0	0.000
9	19.00	0.53	246-Trinitrotolue	686953	1.788
10	19.87	1.19	4-Am-2,6-DNT	755109	1.980
11	20.83	1.13	2-Am-4,6-DNT	960233	1.771
12	22.27	-0.34	2,6-DNT	504401	1.594
13	22.90	0.73	2,4-DNT	1480071	1.901
14	26.97	0.62	2-Nitrotoluene	440739	1.577
15	28.77	0.35	4-Nitrotoluene	389899	1.565
16	30.97	0.32	3-Nitrotoluene	509648	1.563
0	0.00	0.00	PETN	0	0.000
			Totals	12125119	31.995

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
1	4.80			764413	0.000
			Totals	764413	0.000

File: 08239601.d12 Sample: 40540MSD



(14)

Lockheed Analytical Services

DK 8/26/96

Data Reprocessed On 08/26/1996 15:01:33

Sample Name: 40540LCS Date: 08/23/1996 20:08:26
Data File : D:\DX\DATA\HPLCA\8330\082396\08239601.D10
Method : d:\DX\METHOD\HPLCA\8330\082396.MET
ACI Address: 1 System: 1 Inject#: 10 Detector:UV/Vis
Analyst : D. Percy Column: ULTRACARB 5 ODS-20 250X4.6 86610

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	12.5	10800	5Hz	0.00	36.00	5000

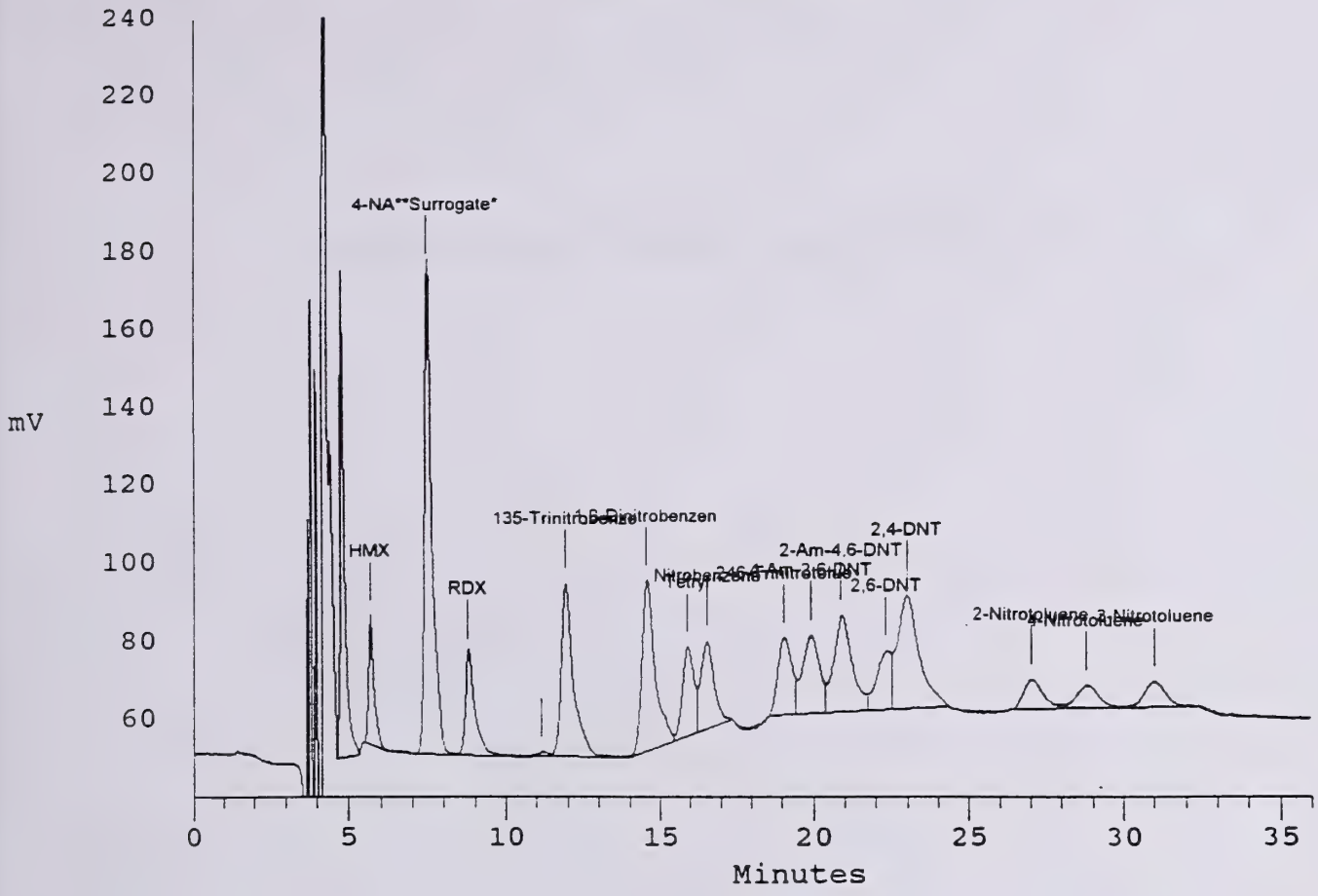
********** Component Report: All Components **********

Pk. Num	Ret% Time	Delta	Component Name	Area	Concentration ppb
2	5.67	0.59	HMX	401431	2.004
3	7.47	1.36	4-NA**Surrogate*	2075254	9.644
4	8.77	1.15	RDX	573497	2.075
6	11.93	1.13	135-Trinitrobenze	1202324	2.094
7	14.57	1.16	1,3-Dinitrobenzen	1307735	1.718
8	15.90	1.06	Tetryl	594475	1.617
9	16.57	1.26	Nitrobenzene	670797	1.236
0	0.00	0.00	Nitroglycerin	0	0.000
10	19.07	0.88	246-Trinitrotolue	619008	1.611
11	19.93	1.39	4-Am-2,6-DNT	747481	1.960
12	20.90	1.41	2-Am-4,6-DNT	1004911	1.853
13	22.33	-0.04	2,6-DNT	488442	1.543
14	23.00	1.17	2,4-DNT	1372705	1.763
15	27.03	0.87	2-Nitrotoluene	340275	1.217
16	28.80	0.47	4-Nitrotoluene	293252	1.177
17	31.03	0.54	3-Nitrotoluene	318266	0.976
0	0.00	0.00	PETN	0	0.000
			Totals	12009854	32.490

********** Peak Report: Unknown Peaks **********

Pk. Num	Ret% Time	Component Name	Area	Concentration ppb
1	4.77		1097355	0.000
5	11.17		22127	0.000
		Totals	1119482	0.000

File: 08239601.D10 Sample: 40540LCS



RUN LOGS/EXTRACTION SHEETS

Analyst	Dat	Sample Name	Description/ Solution	Matrix/ Dil.	Raw D.	Method File	Reported	ReAnalyzed	Cc ALS N. Only)
dfp	8/23/9[illegible]	IB		1	HPLCA\8330\082396\[illegible]39601.d01	HPLCA\8330\082396.	no		instrument blank
dfp	8/23/96 15:01	AUTOCAL1R	0605-36-1	1	HPLCA\8330\082396\08239601.d02	HPLCA\8330\082396.	yes		
dfp	8/23/96 15:40	AUTOCAL2R	0605-36-2	1	HPLCA\8330\082396\08239601.d03	HPLCA\8330\082396.	yes		
dfp	8/23/96 16:18	AUTOCAL3R	0605-36-3	1	HPLCA\8330\082396\08239601.d04	HPLCA\8330\082396.	yes		
dfp	8/23/96 16:56	AUTOCAL4R	0605-36-4	1	HPLCA\8330\082396\08239601.d05	HPLCA\8330\082396.	yes		
dfp	8/23/96 17:34	AUTOCAL5R	0605-36-5	1	HPLCA\8330\082396\08239601.d06	HPLCA\8330\082396.	yes		
dfp	8/23/96 18:12	AUTOCAL6R	0605-36-6	1	HPLCA\8330\082396\08239601.d07	HPLCA\8330\082396.	yes		
dfp	8/23/96 18:51	IB		1	HPLCA\8330\082396\08239601.d08	HPLCA\8330\082396.	no		instrument blank
dfp	8/23/96 19:29	40540MB		12.5	HPLCA\8330\082396\08239601.d09	HPLCA\8330\082396.	yes		
dfp	8/23/96 20:08	40540LCS		12.5	HPLCA\8330\082396\08239601.d10	HPLCA\8330\082396.	yes		
dfp	8/23/96 20:46	40540MS		12.5	HPLCA\8330\082396\08239601.d11	HPLCA\8330\082396.	yes		
dfp	8/23/96 21:25	40540MSD		12.5	HPLCA\8330\082396\08239601.d12	HPLCA\8330\082396.	yes		
dfp	8/23/96 22:03	L7729-1		12.5	HPLCA\8330\082396\08239601.d13	HPLCA\8330\082396.	yes		
dfp	8/23/96 22:41	IB		1	HPLCA\8330\082396\08239601.d14	HPLCA\8330\082396.	no		instrument blank
dfp	8/23/96 23:19	CCV3	0605-36-3	1	HPLCA\8330\082396\08239601.d15	HPLCA\8330\082396.	no		extra ccv
dfp	8/23/96 23:57	CCV3	0605-36-3	1	HPLCA\8330\082396\08239601.d16	HPLCA\8330\082396.	yes		

LOCKHEED ANALYTICAL SERVICES

TRACKING SHEET DATA REPORT (bs17 EXPLOSIVES)

EXTRACTION SHEET FOR: 8330 EXPLOSIVES Extraction

WORKSHEET NUMBER: 8330 EXPLOSIVES_40540

H. 08/26

DUE 08/26

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED/ CREATED	VOL/WT EXTR	SURR uL	MS uL	WATER SAMPLE pH	EFFECTIVE FINAL VOLUME mL	AMT GIVEN TO ANALYST
					JW 8-21-96					
L7729-1	12.5	9608264-01Q	19-AUG-96	21-AUG-96	400ml	5		8	5.0ml	~4ml
40540MB	MB	Method Blank		21-AUG-96				7		
40540LCS	LCS	Lab Ctrl Sample		21-AUG-96			8	7		
40540MS L7729-2	MS	9608264-01Q	19-AUG-96	21-AUG-96				8		
40540MSD L7729-2	MSD	9608264-01Q	19-AUG-96	21-AUG-96				8		
SPIKELOT40540	SPIKELOT	Spike Lot Sample		21-AUG-96						

JW 8-21-96

EXTRACTION STARTED : 8-21-96 EXTRACTION COMPLETED : 8-21-96

SONICATION DATE & TIME STARTED : N/A DATE & TIME COMPLETED: N/A

SIGNED:

SIGNED:

SPIKED WITNESS:

SIGNED:

QC BATCH# : 8330 EXPLOSIVES_40540

LOT #'S

SURR ID # : 0859-8-3 CONC: 1.0mg/mL CCN : BM507

MS ID # : 0859-27-1 CONC: 100ug/mL NaCl: 94/620 CaCl2 : N/A

REVIEWED BY: MICHAEL BUNDOCK

NARRATIVE

EXTRACT COC: RECIEVED BY: JF 8:40 AM DATE: 8-22-96

BROWARD TESTING LABORATORY, INC.

4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334

Date: 09/05/96 Report #: 7080313 Laboratory ID #: M-FL517

Client: COMMONWEALTH ANALYTICAL
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085-

Date Collected: 08/19/96
Time Collected: 09:00
SOURCE: 9608264-01N

Date received at lab: 08/21/96 Time received at lab: 10:10

NOTE: "*" The MCL (Maximum Contaminant Level) or an established guideline has been exceeded for this contaminant.
"ND" This contaminant was not detected at or above our stated detection limit.

Fed Id #	Analysis Performed	Method	MCL (mg/l)	Det. Level	Level Detected	Anal Date
	Carbamates					
2021	Carbaryl	531.1	---	0.000068	ND	08/27/9
2022	Methomyl	531.1	---	0.00011	ND	08/27/9
2043	Aldicarb sulfoxide (2)	531.1	0.007	0.00025	ND	08/27/9
2044	Aldicarb sulfone (2)	531.1	0.007	0.000095	ND	08/27/9
2047	Aldicarb (2)	531.1	0.007	0.0001	ND	08/27/9
2066	3-Hydroxycarbofuran	531.1	---	0.00023	ND	08/27/9
2036	Oxamyl (2)	531.1	0.2	0.0004	ND	08/27/9
2046	Carbofuran	531.1	0.04	0.000211	ND	08/27/9

These test results may be used for compliance purposes as required.

(2) THESE ANALYTES ARE NOT REQUIRED BY THE U.S.F.D.A. OR THE MASS.D.P.H. FOR FINISHED BOTTLED WATER TESTING AND ARE INCLUDED ONLY FOR THE CLIENT'S INFORMATION. THIS FOOTNOTE DOES NOT APPLY TO SOURCE WATER SAMPLES.

Gary J. Meyer

Gary Meyer, Lab Director

BROWARD TESTING LABORATORY, INC.
4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334

QA/QC DATA ENTRY SHEET
(ORGANICS)

Sample range: 7080277-7080339 (INCLUDES 7080313)

PARAMETER	BLANK	% RECOVERY	REL % DIFF
Herbicides by 515.2 Date_____ Init_____			
2,4-D			
Pentachloro phenol			
Dicamba			
548.1 Date_____ Init_____			
Endothall			
549.1 Date_____ Init_____			
Diquat			
547 Date_____ Init_____			
Glyphosate			
531.1 Date 8/27/96 Init LO			
Oxamyl	BDL	99.1	0.10%
Aldicarb	BDL	99.8	4.88%
Carbaryl	BDL	129.1	2.44%
525.2 Date_____ Init_____			
Di(2-ethylhexyl phthalate			
Benzo(a)pyrene			
Lindane			
625 Date_____ Init_____			
246 trichloro phenol			
ButylBenzyl phthalate			

BROWARD TESTING LABORATORY, INC.
4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334

QA/QC DATE ENTRY SHEET
(ORGANICS)

Sample range: 7080277-7080339 (INCLUDES 7080313)

PARAMETER	BLANK	% RECOVERY	REL % DIFF
502.2 Date_____ Init_____			
1, 4 Dichloro benzene			
cis-1,2 di chloroethene			
Bromodichloro methane			
Toluene			
504.1 Date_____ Init_____			
EDB			

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 961804
Prepared For:

COMMONWEALTH ANALYTICAL
CHRIS REYNOLDS
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085-5308

Date: 09/06/96

Rondalynn Mull
Signature

9-06-96
Date:

Name: Rondalynn Mull

Core Laboratories, Inc.
420 West First Street
Casper, WY 82601

Title: Laboratory Supervisor

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CORE LABORATORIES

FINAL REPORT DISTRIBUTION
09/06/96

JOB NUMBER: 961804

COMPANY NAME	COMPANY MAILING ADDRESS	COMPANY CITY	STATE	COMPANY ZIP CODE
COMMONWEALTH ANALYTICAL CHRIS REYNOLDS	53 SOUTHAMPTON ROAD	WESTFIELD	MA	01085-5308

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CORE LABORATORIES

LABORATORY TESTS RESULTS

09/06/96

JOB NUMBER: 961804 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9608154
DATE SAMPLED.....: 08/19/96
TIME SAMPLED.....: 09:00
WORK DESCRIPTION...: 9608264-01

LABORATORY I.D...: 961804-0001
DATE RECEIVED....: 08/22/96
TIME RECEIVED....: 10:00
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Radon 222	1380		pCi/l		08/23/96	NRF
Radon 222 error, +/-	187		pCi/l		08/23/96	NRF
Radon 222 LLD	266		pCi/l		08/23/96	NRF
Gross Alpha, total	ND		pCi/l	EPA 900.0	08/30/96	JG
Gross Alpha, total, error, +/-	0.5		pCi/l		08/30/96	JG
Gross Alpha, total, LLD	0.9		pCi/l		08/30/96	JG
Beta, total	0.2		pCi/l	EPA 900.0	08/30/96	JG
Beta, total, error, +/-	1.0		pCi/l		08/30/96	JG
Gross Beta, total, LLD	1.6		pCi/l		08/30/96	JG
Radium 226, total	0.1		pCi/l	EPA 903.1	09/06/96	NRF
Radium 226, total, error, +/-	0.2		pCi/l		09/06/96	NRF
Radium 226, total, LLD	0.4		pCi/l		09/06/96	NRF
Radium 228, total	ND		pCi/l	EPA 904.0	09/05/96	DW
Radium 228, total, error, +/-	0.5		pCi/l		09/05/96	DW
Radium 228, total, LLD	1.3		pCi/l		09/05/96	DW
Strontium 90, total	ND		pCi/l	EPA 905.0	08/30/96	NRF
Strontium 90, total, error, +/-	0.8		pCi/l		08/30/96	NRF
Strontium 90, total, LLD	2.2		pCi/l		08/30/96	NRF
Tritium, total	ND		pCi/l	EPA 906.0	08/30/96	NRF
Tritium, total, error, +/-	89.3		pCi/l		08/30/96	NRF
Tritium, total, LLD	148		pCi/l		08/30/96	NRF
Bismuth 214, by HPGe gamma	81.4		pCi/l	EPA 901.1	09/03/96	JG
Bismuth 214, error, +/-	26.4		pCi/l		09/03/96	JG

420 West First Street
Casper, WY 82601
(307) 235-5741

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CORE LABORATORIES

LABORATORY TESTS RESULTS
09/06/96

JOB NUMBER: 961804 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

CLIENT I.D.....: P.O. NO.: 9608154
DATE SAMPLED.....: 08/19/96
TIME SAMPLED.....: 09:00
WORK DESCRIPTION...: 9608264-01

LABORATORY I.D...: 961804-0001
DATE RECEIVED....: 08/22/96
TIME RECEIVED....: 10:00
REMARKS.....: WATER

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Potassium 40, by HPGe Gamma	188		pCi/l		09/03/96	JG
Potassium 40, error, +\- by HPGe	76.6		pCi/l		09/03/96	JG
Lead 214, by HPGe Gamma	59.1		pCi/l		09/03/96	JG
Lead 214, error +/-	17.7		pCi/l		09/03/96	JG

420 West First Street
Casper, WY 82601
(307) 235-5741

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CORE LABORATORIES

QUALITY CONTROL REPORT
09/06/96

JOB NUMBER: 961804 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Radon 222				DATE/TIME ANALYZED:08/23/96 12:11						QC BATCH NUMBER:18241
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :						TECHNICIAN:NR
BLANK	MB	MB1H30823	ND							
STANDARD	LCS	LCSH30823	22.6			23.6	96			
DUPLICATE	MD	961805-1	433	574	28					
PARAMETER:Strontium 90, total				DATE/TIME ANALYZED:08/30/96 07:51						QC BATCH NUMBER:18255
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 905.0						TECHNICIAN:NR
BLANK	MB	MB2SR0829	ND							
STANDARD	LCS	LC1SR0829	24.2			23.5	103			
SPIKE	MS	961804-1	52.4					ND	47.0	111
DUPLICATE	MD	961836-1	ND	ND	0					
PARAMETER:Gross Alpha, total				DATE/TIME ANALYZED:08/30/96 14:50						QC BATCH NUMBER:18257
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 900.0						TECHNICIAN:JG
	MB	MB1AB0828	0.8							
[illegible]RD	LCS	LCS1A0828	28.2			25.5	111			
SPIKE	MS	961808-1	226					90.1	128	106
DUPLICATE	MD	961808-1	90.1	67.9	28					
PARAMETER:Gross Beta, total				DATE/TIME ANALYZED:08/30/96 14:54						QC BATCH NUMBER:18257
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 900.0						TECHNICIAN:JG
BLANK	MB	MB1AB0828	ND							
STANDARD	LCS	LCS1B0828	26.5			21.5	123			
SPIKE	MS	961808-1	141					7.4	108	124
DUPLICATE	MD	961808-1	7.4	4.5	49					
PARAMETER:Tritium, total				DATE/TIME ANALYZED:08/30/96 02:31						QC BATCH NUMBER:18257
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 906.0						TECHNICIAN:NR
BLANK	MB	MB2H30829	0.3							
STANDARD	LCS	ST1H30829	20.2			21.5	94			
SPIKE	MS	961804-1	1980					ND	2150	92
DUPLICATE	MD	961837-1	45.0	85.6	62					
PARAMETER:Lead 214, by HPGe Gamma				DATE/TIME ANALYZED:09/03/96 14:47						QC BATCH NUMBER:1825E
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :						TECHNICIAN:JC
STANDARD	CS137-GMX	LCS10829	85800			86700	99			
DUPLICATE	MD	961804-1	59.1	88.9	40					
PARAMETER:Bismuth 214, by HPGe gamma				DATE/TIME ANALYZED:09/03/96 14:50						QC BATCH NUMBER:1825E
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 901.1						TECHNICIAN:JC
DUPLICATE	MD	961804-1	81.4	109	29					

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09/06/96

JOB NUMBER: 961804 CUSTOMER: COMMONWEALTH ANALYTICAL ATTN: CHRIS REYNOLDS

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Bismuth 214, by HPGe gamma				DATE/TIME ANALYZED:09/03/96 14:50						QC BATCH NUMBER:182585
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 901.1						TECHNICIAN:JG
PARAMETER:Potassium 40, by HPGe Gamma				DATE/TIME ANALYZED:09/03/96 14:52						QC BATCH NUMBER:182587
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :						TECHNICIAN:JG
DUPLICATE	MD	961804-1	188	189	1					
PARAMETER:Radium 228, total				DATE/TIME ANALYZED:09/05/96 16:12						QC BATCH NUMBER:182617
REPORTING LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 904.0						TECHNICIAN:DW
BLANK	MB	MB2R80903	ND							
STANDARD	LCS	LC1R80903	11.3			11.5	98			
SPIKE	MS	961861-1	12.9					ND	11.5	112
DUPLICATE	MD	961850-1	367	392	7					
TER:Radium 226, total				DATE/TIME ANALYZED:09/06/96 07:07						QC BATCH NUMBER:182649
NG LIMIT/DF:		UNITS:pCi/l		METHOD REFERENCE :EPA 903.1						TECHNICIAN:NRF
BLANK	MB	MB2R60903	0.1							
STANDARD	LCS	ST1R60903	12.1			15.0	81			
SPIKE	MS	961854-1	23.8					0.4	25.0	94
DUPLICATE	MD	961850-1	320	355	10					

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QUALITY CONTROL FOOTER

METHOD REFERENCES

(1) EPA 600/4-79-020. Methods for Chemical Analysis of Water and Wastes. March 1983
(2) EPA SW-846. Test Methods for Evaluating Solid Waste. Third Edition. November 1990 and July 1992 update
(3) Standard Methods for the Examination of Water and Wastewater. 17th. 1989
(4) EPA 600/4-80-032. Prescribed Procedures for Measurement of Radioactivity in Drinking Water. August 1980
(5) Federal Register. Friday. October 26. 1984 (40 CFR Part 136)
(6) EPA 600/8-78-017. Microbiological Methods for Monitoring the Environment. December 1978

COMMENTS

(1) The data in the Laboratory Test Results Report may differ from the data in the QC Report due to calculations for sample preparation and/or dilutions.
(2) The "Time Analyzed" in the QC Report may not reflect the actual time of each analysis. The "Date Analyzed" is the actual date of analysis.
(3) Soil and sludge samples are reported on a wet basis or on an "as received" basis unless otherwise indicated.
(4) The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.
(5) Analyses performed by a subcontract laboratory are indicated with an asterisk and associated code in the "Technician" data field.

Subcontract Laboratories	Code
Core Laboratories - Anaheim. CA	* AN
Core Laboratories - Aurora. CO	* AU
Core Laboratories - Casper. WY	* CA
Core Laboratories - Corpus Christi. TX	* CC
Core Laboratories - Houston. TX	* HP
Core Laboratories - Lake Charles. LA	* LC
Core Laboratories - Long Beach. CA	* LB
Other Subcontract Laboratories	* XX

DEFINITIONS

(1) NC = Not Calculable due to values lower than the reporting limit.
(2) ND = Not Detected above the reporting limit.

QC SAMPLE IDENTIFICATIONS

BLANKS

MB - Method Blank (also referred to as a preparation blank)
RB - Reagent Blank
IB - Instrument Blank
ICB - Initial Calibration Blank
CCB - Continuing Calibration Blank
HB - Holding Blank (also referred to as a storage blank)

DUPLICATES

MSD - Matrix Spike Duplicate
MD = Method Duplicate

SPIKES

MS = Matrix Spike
MSD = Matrix Spike Duplicate
PDS = Post Digestion Spike
BS = Blank Spike (also referred to as a method spike)
SS = Surrogate Spike

REFERENCE STANDARDS

CS = Calibration Standard
RS = Reference Standard (also referred to as an external reference standard)
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
LCS = Laboratory Control Sample

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